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Soda Springs in the Desert.

"The Alta California" says:—"The party engaged in the survey of public lands, under Mr. Pool, found at a point about fifty miles east of San Felipe, in San Diego Co., a singular collection of fountains or springs of soda water, situated in a sandy plain or depression of the surface of the desert. The spring is in a mound of symmetrical shape, tapering like a sugar loaf, in the center of the top of which is a hole, unfathomable, containing the carbonated beverage fresh from some natural laboratory below. Some of these mounds are six feet high, and clothed with a green and luxuriant coat of grass, while others are shaped like an inverted bowl, and fringed by a growth of cane. The water is described as having the same sparkling and effervescing quality as that ordinarily sold by apothecaries, and was drunk with avidity by both men and animals belonging to the party. When impregnated with acid of any kind, it produced instant effervescence, and in that form is peculiarly refreshing as a drink. Some of it has been brought in, in order to be chemically tested, with a view to make the discovery of some practical utility."

Tunneling Chicago River.

A committee of the Chicago Council have resolved to accept the plan of tunneling the Chicago River as proposed by the American Sub-Marine Tunnel Company of New York. It is to be finished by May 1st, 1855, made of cast-iron entrances on a grade not exceeding one foot fall in nine. The plan to be two wagon tracks, each ten feet wide, and two foot ways, each four feet wide, the former eleven feet and the latter seven feet. The top of the tunnel to be not less than twelve feet below low water mark for one hundred and fifty feet in the center of the river.

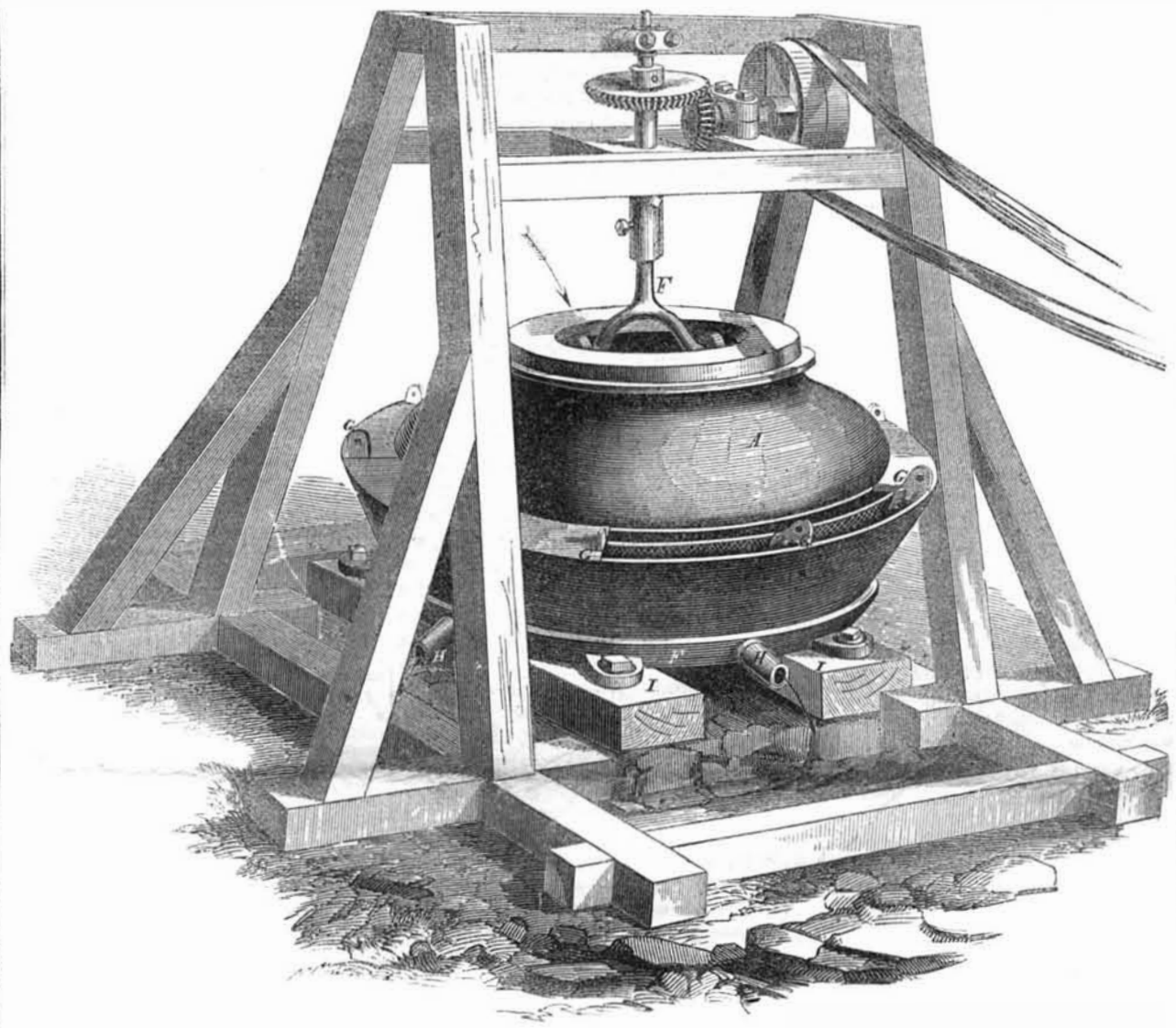
Brandy in Climbing Mountains.

A recent writer says: "It is astonishing the effect produced by spirits upon the persons of even the strongest constitution, when indulged in at an elevation of 10,000 or 12,000 feet. At 19,000 feet it is perfectly dangerous to take any quantity of raw spirits, as even a half a glass of brandy produces intoxication. All hill travelers drink nothing but hot tea; for traveling up the mountains and down valleys, across bridges of very questionable security, requires a firm and very steady nerve, which it is impossible for those who indulge freely in the use of spirits to retain long in the snowy regions.

How to make Deaf Persons Hear the Pianoforte.

The instrument should be opened, and a rod of pine wood provided about half an inch thick, three quarters wide, and long enough to reach from the bridge of the sounding board to the mouth of the deaf person. If one end of this rod be made to rest firmly on the bridge, and the other end be held between the teeth, the softest sounds will be distinctly communicated. —[Musical Transcript.

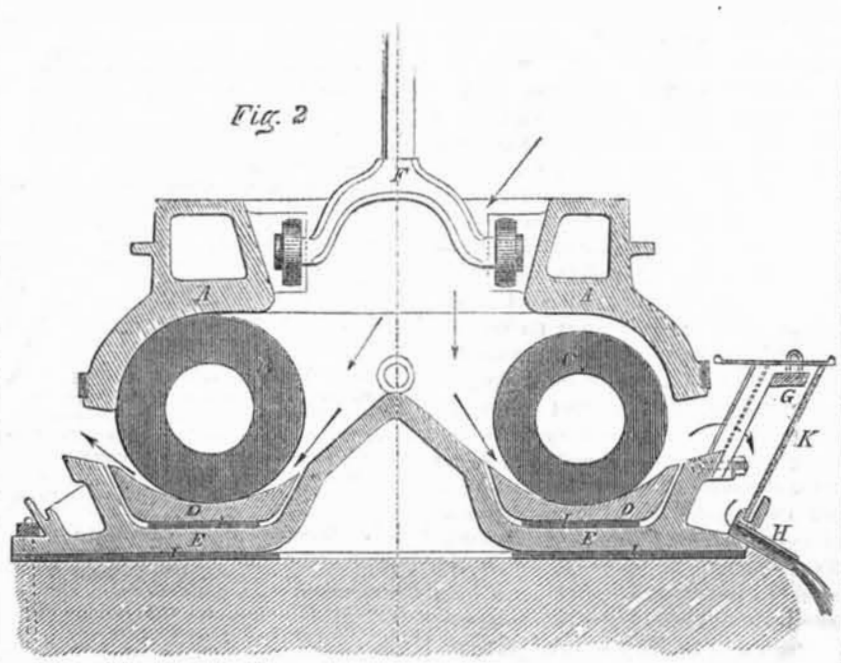
IMPROVED QUARTZ CRUSHING MACHINE.---Figure 1.



The annexed engravings are a perspective view, figure 1, and a vertical section, figure 2, of Cochran's Quartz Crushing Machine, which was illustrated on page 364, Vol. 7, "Scientific American." The difference between the former and the present engravings exhibit a great change and improvement in some of the details of this machine.

The machinery is placed within a strong frame, and the basins rests on the sleepers, I I; E is the outside bottom basin, and K its sides, there being a space between the inside basin, where the quartz is crushed, and the outside shell; G is an adjustable screen between them, through which the ground material must pass to be discharged through the spouts, H H; C

Fig. 2



B are the grinding balls; they run in the channel, D, of the inner basin and the ground or crushed matter is represented as being discharged by the arrows. The quartz is fed into the machine at the top as shown by the descending arrows. A is the cover or inverted basin; it has lugs in it for the reception of the arms, F, of the driving shaft which has a bevel wheel on its upper part that receives motion through a pinion driven by band and pulley, as shown. The lower basin is stationary, but by the revolving cap, A, the balls are rotated in their channel, D, crushing and pulverizing the quartz to fine dust. In the old machine, the top basin or cap was driven by a band passing around it, and not by a vertical shaft as in this one.

The patent has been purchased by a company, and is now called the "Eureka Crushing Machine." Every difficulty in the machine as formerly constructed, are said to be obviated in this one. One of these machines is in operation at the "Belzona Mine," Va., and another in Georgia, at the "Columbia Mines," both doing good work, the former having crushed 805 tuns of quartz in 364 hours, and the latter 2,000. Sir Henry Huntly has one at the "Anglo-California Mines," Cal., which also does well.

The Company say of this machine:

"Everything is now so simplified that with the drawings furnished by the Company, any one can put them in operation, no oil is used about this machine whatever, and it is perfectly water tight without needing any packing, and will take care of itself when running, without any assistance, and keeps itself perfectly clear, and delivers all chips and grass, without crushing it."

More information may be obtained by letter or otherwise, at No. 32 Cliff street, New York City.

Indian Meal in Ireland.

The "Belfast (Ireland) Mercury," says, the extent to which the sale of Indian meal is carried on through the rural districts, seems really wonderful. At one steam mill the average quantity turned out, for the past couple of months, exceeded fifty tuns per week.

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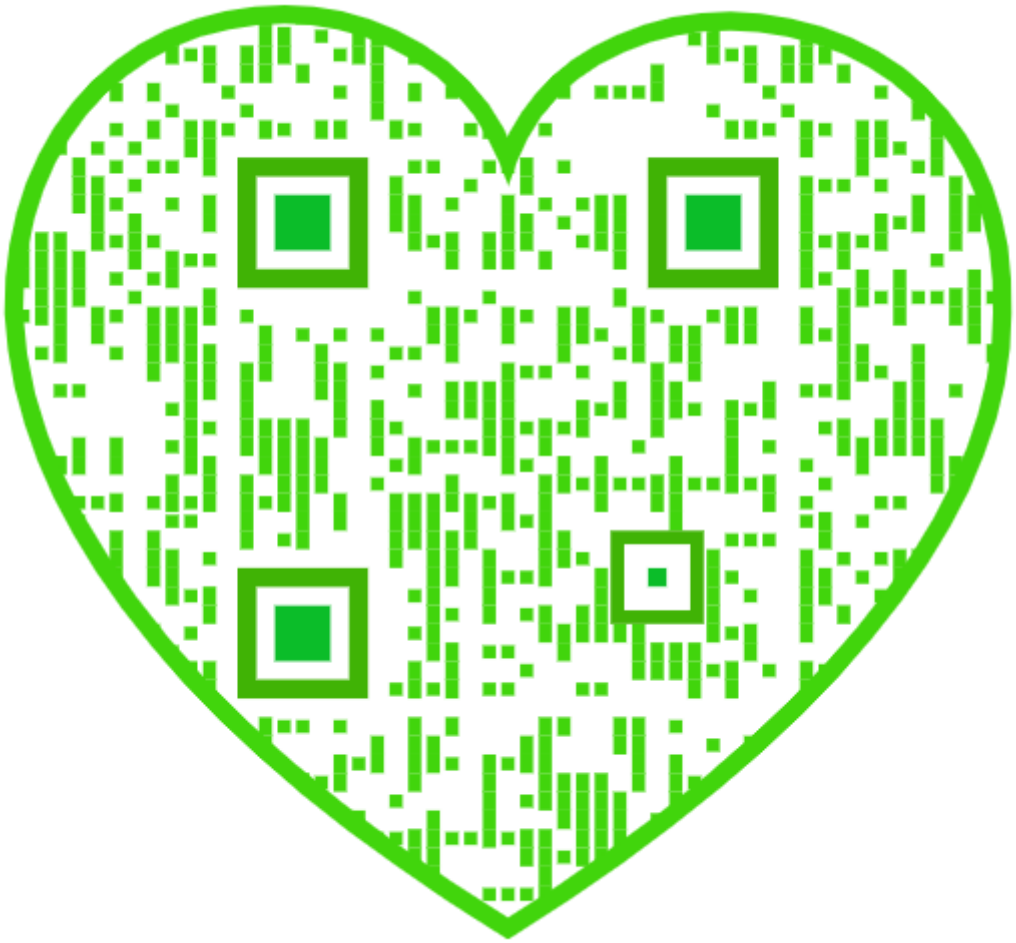

The Progress of our Country—Dr. Nott.

In the last number of the Sci. Am. we mentioned that the venerable Dr. Nott, President of Union College, Schenectady, N.Y., had made a very thrilling address on the fiftieth anniversary of his Presidency, July the 25th, ult.

Dr. Nott is one of our oldest and most successful American inventors. The following extracts from his speech will repay perusal:

"Fifty years ago, having been invested with the supervision of Union College, I stood for the first time on yonder rising ground where the College edifices are now seen. These grounds, now so symmetrical and ornate, were then mere pasture ground, scarred with deep ravines difficult of access, by swamp and sand-hill, and divided into different compartments indicative of different ownerships. There was no tree, shrub, nor garden, nor building.—Some thirty students, scattered over the then village of Schenectady, met at a cabinet maker's, on the corner of Union and Ferry sts.—and these then constituted the whole of Union College. A stinted provision had previously been made for academic instruction—for the masses here. Nor, fifty years ago, was the provision for trade and travel more abundant.—Chemistry was then little known; the motive power of steam less. The application of electricity and the sunbeam to any practical purpose were entirely unknown. By the power of muscle and of wind the internal commerce of the country was conducted. A visit to Albany, fifteen miles, and the return through the intervening desert, over the winding pathway, required the time of three days, to New York often three weeks, to Buffalo six; a voyage to Whitesboro' was executed by the oar or the setting-pole, and took more time and involved greater dangers than a voyage across the Atlantic does at this day. Rome was then the great commercial capital of the West. Beyond it commerce, except with savages, was unknown. The plowshare of the husbandman had scarcely disturbed the soil, or the ax of the woodman assailed the forest; the wild West was a desert for wild men. Even in the older States the wild beast and savage lingered; in all of them the husbandman by the use of the plow, the scythe, and the sickle, worked to replenish his garner, and the spinning-wheel converted flax into raiment. Now, how changed! The hand-wheel and the hand-loom have been exchanged for the power-loom and the spinning-jenny. The setting-pole and the oar are laid aside, and the steam-engine has been substituted. Nor this alone; human labor is constantly disappearing, and, in a thousand ways, processes are now carried on by steam, which, fifty years ago, were performed by the human hand, and this only. Meantime, artificial channels had been excavated round the Falls of the Mohawk, the Hudson, the Niagara, and the St. Mary, connecting the waters of the lakes with the ocean. Villages have sprung up, a numerous population has appeared, and from them the hum of busy industry is heard. Nor does the speed of steam satisfy the demands of an eager population; the lightning has been trained to convey tidings from friend to friend at any intervening distance. Light, too, has been put in harness, and has learned to do the bidding of man; the artist, indeed, still bends over his easil and slowly lays on the colors which complete his work, but art has deserted his studio, and now, in an instant, by the impress of the sunbeam, her end is attained! This substitution is more than a substitution of elemental for muscular power—it is an increase of power itself; and a perfection and rapidity have been attained which never could have been reached by the power of man or brute, however applied or extended. Hence the great increase of comforts and capital which we witness. The mere day-laborer is better clad and lodged than were the aristocracy of England three hundred years ago. Meantime, emigration in its western flow has been carrying with it arts and sciences, English common-law and the Christian religion, from the Atlantic to the shores of the Pacific Ocean. What has, in so short time, produced such wondrous results? Mind: educated, religious, Christian mind. This is the land of Bibles and of liberty, and the land of liberty because it is the land of Bibles. The world over, where the Bible is read, man is free, and where it is not, oppression reigns. Time was when freedom of opinion was the prerogative of governments, when the masses were required to believe and think as the ruling power tanght, and to believe in its teaching; and to compel this obedience the rack, the gibbet, and the torture were applied. To escape this tyranny our pilgrim fathers fled to savage shores and forest wilds, and their successful resistance formed a new era. Individual opinions became everywhere apparent; these congregated, and formed public opinion; and this, brought into action, became an element of nations, and grew into a governing principle of the world. At present it is but in its infancy; but when it is enlightened by science, sanctified by grace, the voice of power shall no longer come down from usurped palaces of the people, but go up from the people to the seat of Government.—Within this half century, public schools have gone forth to elevate these masses; Church and State have been separated in all the States, and now the books of nature and grace lie open, without note or comment, free to all to read. During the same half century, the educational system has been revised and liberalized, as well as extended. We have escaped many of the vices which arbitrary power induces.—Our energies and enterprise have been so well called into action as to enable us to begin the reform necessary to the new world, and also to co-operate in the renovation of the old. Our discoveries on the shores of the Pacific will soon place in our hands the capital sufficient for the great work that is to be done; the leisure, the result of our mechanical skill, will aid, and thus we shall soon have the opportunity of carrying to the further shores of that ocean, and to shores beyond it, the blessings God has given us in charge. The rapidity with which capital is accumulated is now great.—Look at Britain. It is not her armies nor her navies that make her what she is, but her steam-engines, her machinery, and her coal fields. This republic, ere reaching manhood, is become the competitor of England, and we see what has been done. When such are the results of imperfect experiments, what may not be expected from perfected experiments? In the factory, in the field, science will teach new labor-saving methods, new modes of increase of material wealth. And oh! what may not be expected in the changed condition of man, when, by the supervision and guidance of the elements of nature, his physical wants shall be provided for! When this shall come to pass, (as it will, in the providence of God,) how much valuable time will be redeemed from toil for the cultivation of the intellect, for the enjoyment of the affections, and for the worship of the adorable Being who reigns in Heaven! Then it will only remain to spread the Bible, to uncloak its pages, to make this earth what Heaven is, and what God proposes it shall one day be—when not alone the empires on the shores of the Pacific, but empires beyond, and the isles of the ocean, and all that dwell on the planet, shall be ransomed and redeemed. You my dear pupils, being called by the providence of God to aid in the advancement and approach of this holy and happy future, will, each of you, buckle on his armor and prepare for the good work you have to do. Go into the world and do well, each of you, his allotted part.—Enter the sick room and administer the remedy which removes pain or disappoints death for a period; defend the wronged at the bar; administer justice from the bench, enter the Senate-chamber, and there speak and act for your country's rights and those alone; smooth party asperities; awaken a more undivided zeal among members of the church; and as the best of all and the highest of all, venerate and inculcate religion; teach it as the key to all art and all sciences; as that which sanctifies all and with which all harmonize. There is a mistake on this point too prevalent. Science and religion are falsely supposed to be at war. Oh! truth is no less truth when taught by the sunbeams above or the fossiliferous rocks below, than when inscribed on parchment or chiselled in marble. God's infinity reaches beyond the furthest scope of all sciences; no matter how small the atom in its approach to nothingness which the microscope can detect, nothing is too small for God to see. Let man turn whither he may, to what part of the heavens or of the earth that he can, and the voice of God comes home to the ear of man. God is here, and here, and here. The worlds which God made, and which he governs, are surely text books for man to study, and it is the fool, and not the wise man, who says—there is no God. It is as puerile and absurd to base our rocks as to hang our hopes, on nothing! My pupils, study nature, and you will find her teachings every where the same. The same pencil that gave their hues to the lilies of the valley, now paints the roses in the vale of Tempe. Never feel that the temple devoted to science is sacred to her, until it is sacred to religion."

TO CORRESPONDENTS.

O. M., of Ohio.—There is no novelty in your right and left jack-screw for lifting buildings, &c. There is already a patent for the same thing.

C. A., of Pa.—You will be perfectly safe in making and using the article, as the patent has expired.—There is no patent for making air tight canvas that we are aware of, but the india rubber cloth is treated according to patented processes.

S. W. Jr., of C. W.—We fail to discover the slightest novelty in your trace buckle.

L. B, of N. Y.—We think your invention is practicable, and to us it seems new and useful. Would advise you to send a drawing of it to the office for further examination. Your remarks about the necessity of such a regulation upon our ocean steamers is correct.

H. S., of Ky.—Your invention appears to us a valuable one, and so far as we know, it is entirely new and patentable. For sandy roads we think it would take the place of plank.

S. & C.—Your letters patent came duly to hand, we will attend to getting up engravings and publish them in their turn.

T. F., of Mich.—Your inventions are both impracticable. Save your money and reputation by keeping silent on your inventions, unless you can devise something better. We don't think it would be for your interest, or ours either, to publish engravings of your inventions.

S. F., of Mich.—The manner you propose for applying the pressure of fluids to a soda fountain cannot be regarded as possessing a patentable feature. The change of use is not the proper subject of patent.

J. F. V., of Chester.—Wagon brakes are well known, which possess the self-operating features. In mountainous districts it is not uncommon to find them so arranged as to commence breaking as soon as the road begins to descend.

E. R., of La.—The device you describe for denoting the stopping places or railroad stations, is not new.—The same thing is perfectly well understood in this section.

E. A. R., of N. Y.—Persons frequently send us advertisements for the sale of "practical receipts." If we advertise them it is not understood that we at the same time stand sponsors for their goodness. Such stuff is usually not worth buying, but sometimes, no doubt, practical men sell their experience to others, which is all right. You had better first find out the character of the advertiser before investing your money for receipts which may prove valueless.

A. F. B., of Ct.—Your ideas in regard to super-heating steam are not new, as you will perceive by reference to an article in another column.

A. F. G., of Pa.—Your improvement in steam brakes does not appear to possess any novel feature. Stephenson's English brake embodies all that could be claimed as essential. The improvement in shuttle boxes for power looms appears to be a new thing, and we advise you to send us a model.

A. N. N., of Ind.—Your alleged improvement in Rotary Steam Engines, is different from anything with which we are acquainted, and we think it embraces novelty of a patentable character. We cannot say how it would operate—this is necessarily a question of experiment.

D. W. C. S., of Ill.—A machine for the purpose you specify yours accomplishes, must be very useful. Without a minute description, we cannot give you advice as to its patentability.

D. W. H., of Wis.—There are a number of patents on hemp breaking machines, but which is the best for your purpose we don't know.

G. C. H., of Phila.—Dovetailing machines are very common, and unless; your father has got something more novel than we should presume him to have, if he is ignorant of the fact of there being machinery for that purpose, we would recommend him not to apply for a patent. However, we will examine a sketch of his machine if you will send one, and advise you further.

G. H. T., of Mass.—Combining metal wire with hemp in the manufacture of rope and cordage is a very old invention.

J. O. H., of Mo.—Your water wheel is not new in principle, but the manner in which you construct it is somewhat different from anything we have seen. We believe it will not operate well on a large scale. Your experiments with a model would not satisfy us that the plan is feasible.

J. S. L., of N. Y.—We believe your plan is impracticable.

T. C., of Va.—We do not understand what you mean by chromatype picture—"reading right," but if you wish to spoil a picture, you cannot do so easier than by trying to remove well dried printer's ink.

S. M. B., of Boston.—You can very easily try the experiment with the pins. There will be more strain upon the large pins, if the blows struck upon them is proportioned to their size, but not if a like heavy blow is given to each of the small pins, which are more numerous.

E. F. B., of Boston.—We do not believe you could obtain a patent for the substance you speak of, unless it is a new composition of matter.

J. C. R., of Pa.—We do not know anything positive to endorse, in relation to the inks you speak of. We have never used them.

W. R. M., of——.—We have seen the current act upon two wheels combined.

W. W. T., of Boston.—We cannot give you the information asked; perhaps there is no such mortar in existence. We have little confidence in the majority of such notices of discoveries.

T. J. K., of Tenn.—The atmospheric telegraph to which you refer, is patented. It would not be possible for you to work the tubular raiload by all the steam you could raise in 10,000 boilers.

J. R. C., of N. Y.—The weight was equally distributed on the whole length of the bridge.

W. H. P., Ind.—There surely ought to be no difference of opinion about water rising above the level of the dam, how can any person contend that it does—The level of the water is altered by an increase or decrease of quantity, and so is the level of the dam; these were all the changes we alluded to.

C. C., of Pa.—Waterengines are not uncommon. We illustrated one in vol. 2, Sci. Am.. and may illustrate two or three in our next volume.

J. P. N., of N. J.—Roman cement will not stand the action of wet and frost, and will not answer the purpose designed by you.

C. S., of Boston.—Your plan of concentrating sulphuric acid, strikes us very favorably, but will there not be some difficulty in obtaining vessels of the proper quality for such a purpose; that is, can you place dependence on all the vessels being made of the proper materials.

W. C., of Boston.—See a letter on another page on the very subject to which you have alluded.

A. B., of N. B.—Your views respecting the origin of the different races of men accord with our views, and you have given us one new idea on the subject. We have received communications on the other side of the question, but we think it best to refrain from opening a discussion which would necessarily become very extended.

J. M., of Wis.—Two wheels will accomplish the object you speak of, just as well as six. The mammoth steamship now building in England is to have side wheels and a stern propeller. The complexity of machinery involved in having six wheels is an objection too serious to their use.

S. T., of Me.—The oil we mentioned in No. 46, is the best of manufactured oils for the purpose stated, so far as we know.

Money received on account of Patent Office business for the week ending Saturday, Aug. 5:—

J. S, R., of Ct., $30; A. L. F., of Ct., $30; E. S., of N Y., $25; J. B., of N. Y., $30; A. R., of N. Y., $30; C. P., of Pa., $40; A. S., of O., $30; F. D., of Va., $210; J. C., of N. Y., $55; J. C., of O., $25; G. B. F., of Vt., $25.

Specifications and drawings belonging to parties with the following initials have been forwarded to the Patent Office during the week ending Saturday, Aug. 5:—

E. S., of N. Y.; R. K., of Mass.: A. N. N., of Ind.; J. C., of N. Y.; G. B. F., of Vt.: W. W., of N. Y.

LITERARY NOTICES.

THE PRINCETON REVIEW.—This solid Quarterly, for July, is replete with the wealth of literature. It is the organ of the American Presbyterian Church (O S.) and maintains a high reputation. It has six articles on various subjects, the first being on the "Present State of Oxford University," and the last on the proceedings of the last General Assembly, which was held recently at Buffalo. Of these proceedings no member of this denomination should be ignorant. The Editor is the learned Prof. Hodge, of Princeton, N. J. The office of publication is 265 Chesnut street, Philadelphia.

BLACKWOOD'S MAGAZINE—This famous Magazine, for July, is just published by Leonard Scott & Co., 78 Fulton street, this city, and is the commencement of a new volume. It contains ten original articles, the leading one being on the growth and prospects of British America. As a treaty of reciprocity in trade, &c., has just been made—and just now confirmed—between Mr. Marcy, our Secretary of State, on the one part, and the Earl of Elgin on the other, in relation to the Provinces of British North America, this article should be read by every citizen who desires to be intelligent on the subject.

THE WESTMINSTER REVIEW—The last number of this famed English Review, just issued from the press of its enterprising American publishers, Leonard Scott & Co., 78 Fulton street, this city, contains a number of very fine articles, especially those on the Russian Question, and Comte's Positive Philosophy.

PUTNAM—For August.—The present number of this magazine is illustrated with a steel engraving of Bayard Taylor, dressed "a la Turk," but not very Turkish-like for all. The leading article is on the Smithsonian Institution, and is a very able one. An article on Confucius, the Chinese philosopher, contains much that is exceedingly instructive and interesting. Another on "West Point Cadet Life," deserves to be read by every citizen of our Republic; in short, the whole number is profound, witty, and ably written. Putnam & Co., publishers, this city.

THE NEW YORK JOURNAL.—The August number of this monthly, published by P. D. Orvis, 130 Fulton st., contains some good illustrations. The articles are racy and readable—very pleasant for light summer reading.

THE NEW ENGLANDER—For August.—This sterling Quarterly, published by F. W. Northrop, of New Haven, Ct., contains eight original articles, of no uncommon excellence: one is a criticism of Lieut. Herndon's Exploration of the Amazon Valley, and assuredly a keen one; "The Early History of Ohio," and "Russia as it is," form the subjects of other two articles.

THE KNICKERBOCKER—For August.—Old Knick comes to us this month rich with the choice fruitage of literary excellence. The first article is on the Life and Character of William Pitt, the celebrated Prime Minister of George III. It is ably written, and as Pitt was well beloved in America (though hated by British Radicals) it will be read with pleasure by all the admirers of that great man—the friend of the Colonies. All the other articles are good, and the Editor's Table, as usual, "is running over with laughter."

FRANK LESLIE'S LADIES' GAZETTE—The number of this Magazine of Fashion for August is unusually well illustrated. Fashionable collars, head-dresses, caps, frocks—and everything else, from a pin to a parasol, are illustrated with evident preciseness and grace of execution. This Magazine has no equal in our country in the variety and beauty of its engravings.

NATIONAL MAGAZINE, for August, is a fine number, full of embellishments and interesting articles. Several of our friends are taking this work and speak very highly of it. Carlton & Phillips, publishers, 200 Mulberry st., New York.

HALL'S JOURNAL OF HEALTH—For August—contains a very elaborate article upon the cholera, and we think it contains more sense than anything which we have read upon the subject this season. The Editor evidently understands whereof he writes. This is a monthly Journal of decided ability, edited and published by W W. Hall, M. D., No. 42 Irving Place, N. Y. Terms $1.

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On the Venom of Serpents.

The following is by S. Gilman, L. L. D., published in the St. Louis "Medical Journal," and is certainly the most interesting article we ever read on the subject:

"There is much in the history and habits of the reptile tribes, however repulsive they may be in appearance, that is very interesting. During a sojourn of two or three months in the interior of Arkansas, which appears to me to be the paradise of reptiles, I paid some attention to that branch of history called ophiology. I found four distinct varieties of rattlesnakes, (*crotalus*,) of which the Crotalus Horridus and Crotalus Kirtlandii are by far the most numerous. The former is the largest serpent in North America. The family of moccasin snakes (Colluber) is also quite numerous, there being not less than ten varieties, most of which being quite as venomous as the rattlesnake.—By dissecting great numbers of different species I learned that the anatomical structure of the poisoning apparatus is similar in all the different varieties of venomous serpents. It consists of a strong frame-work of bone, with its appropriate muscles in the upper part of the head, resembling, and being in fact a pair of jaws, but externally to the jaws proper, and much stronger. To these is attached by a ginglymoid articulation, one or more movable fangs on each side, just at the verge of the mouth, capable of being erected at pleasure. These fangs are very hard, sharp, and crooked, like the claws of a cat, and hooked backward, with a hollow from the base to near the point. I have occasionally seen a thin slit bone divide this hollow, making two. At their base is found a small sack containing two or three drops of venom, which resembles thin honey. The sack is so connected with the cavity of the fang during its erection, that a slight upward pressure forces the venom into the fang at its base, and it makes its exit at a small slit or opening near the point, with considerable force; thus it is carried to the bottom of any wound made by the fang. Unless the fangs are erected for battle, they lie concealed in the upper part of the mouth, sunk between the external and internal jaw bones, somewhat like a pen-knife blade shut up in its handle, where they are covered by a fold of membrane, which encloses them like a sheath—this is the *vagina dentis*. There can be no doubt that these fangs are frequently broken off or shed, as the head grows broader, to make room for new ones nearer the verge of the mouth; for, within the vagina dentis of a very large crotalus horridus, I found no less than five fangs on each side—in all stages of formation—the smallest in a half pulpy or cartilaginous state, the next something harder, the third still more perfect. and so on to the main, well set, perfect fang. Each of these teeth had a well-defined cavity, like the main one. Three fangs on each side were frequently found in copper heads, vipers, and others.

The process of robbing serpents of their venom is easily accomplished by the aid of chloroform, a few drops of which stupifies them. If, while they are under its influence, they are carefully seized by the neck, and the vagina dentis held out of the way by an assistant, with a pair of forceps, and the fang be erected and gently pressed upward, the venom will be seen issuing from the fang, and dropping from its point. It may then be absorbed by a bit of sponge, or caught in a vial, or on the point of a lancet. After robbing several serpents in this manner, they were found, after two days, to be as highly charged as ever with venom of equal intensity with that first taken.

During the process of robbing several species of serpents, I innoculated several small but vigorous and perfectly healthy vegetables with the point of a lancet well charged with venom. The next day they were withered and dead, looking as though they had been scathed with lightning. In attempting to preserve a few drops of venom, for future experiments, in a small vial with two or three parts of alcohol, it was found in a short time to have lost its venomous properties. But after mixing the venom with aqua ammonia, or spirits of turpentine, or oil of peppermint, or of cinnamon, or of cloves, or with nitric or sulphuric acid, it still seemed to act with undiminished energy. It is best preserved, however, for future use by trituration with refined sugar or sugar of milk.

A very fine, large cotton-mouth snake, being captured by putting a shoe-string around him, became excessively ferocious, striking at even the crack of a small riding whip. Finding himself a prisoner, without hope of escape, he turned his deadly weapons on his own body, striking repeatedly his well-charged fangs deeply into his flesh. Notwithstanding this he was put in a small basket, and carried forward.—In one hour after he was found dead, and no amount of irritation could excite the least indication of life.

A large rattlesnake, beheaded instantly with a hoe, would an hour and a half after, strike at anything that pinched its tail. Of several persons who were testing their firmness of nerve by trying to hold the hand steady while the serpent struck at it, not one could be found whose hand would not recoil in spite of his resolution; and one man, a great bully, by-the-by, was struck on the naked throat with considerable force by the headless trunk of the serpent, and staggered back, fainted and fell, from terror.

Seven venomous serpents belonging to five different species, were made to fraternize and dwell amicably in one den. A beautiful pair of long-bodied speckled snakes, known as king-snakes, known to be fangless, and consequently without venom, were duly installed as members of the family. Some uneasiness was perceivable among the older members, but no attempt was made to destroy the intruders—though they might have been killed instanter. The next morning four of the venomous serpents were found to have been destroyed by the king-snakes, and one was still within their coil, and the two remaining ones would make no effort at self defence. A large rattlesnake seemed stupid and indifferent to his fate. He could not be made to threaten or give warning even with his rattles. The smallest king-snake was afterwards innoculated with the poison of one of the serpents he had destroyed, and died immediately after—thus evincing that they must have exercised some power besides physical force to overcome their fellow creatures.

In short, the result of a great number of experiments performed with the venom on a great variety of serpents, seem to lead to the following conclusions:

1. That the venom of all serpents acts as a poison in a similar manner.
2. That the venom of some varieties is far more active than that of others.
3. That a variety of the colluber, known as the cotton-mouth, is the most venomous serpent in Arkansas.
4. That the venom of serpents destroys all forms of organized life, vegetable as well as animal.
5. That alcohol, if brought in contact with the venom, is, to a certain extent, an antidote.
6. That serpents do possess the power of fascinating small animals, and that this power is identical with mesmerism.
7. That the blood of small animals, destroyed by the venom of serpents, bears a close resemblance to that of animals destroyed by lightning or hydro-cyanic acid; it loses its power of coagulation and cannot be long kept from putrefaction."

A correspondent of the New York "Times" of the 24th, attempts to criticise the above, but for what object it is difficult to tell, excepting to assert that aqua ammonia, if freely drank, will act as an antidote of venom. He also asserts in confirmation of what Dr. Gilman says, that alcohol is a remedy. The following extract from his letter will show how deeply scientific he is:

"It throws no light on medical science to say that those substances that *fail to preserve* unimpaired venoms or poisons are 'antidotes,' and it is not purely professional eminence to class as 'antidotes,' substances that destroy or impair certain properties, or change other matter, 'if brought in contact with it.' Oxygen is an excellent supporter of combustion, and although hydrogen, mixed or brought into contact with it, may destroy its burning properties by converting it into water, yet hydrogen is not, on that account, an antidote to oxygen, and no authority of L. L. D. could make it so."

Hydrogen mixed with oxygen will not destroy its burning properties, nor will it convert it into water. Hydrogen and oxygen burned on a piece of lime, produces the most brilliant of lights.

Foreign Scientific Memoranda.

The Greatest Steamer in the World.—The immense screw and paddle steamer, building by Scott Russel, at Millwall, England, for the Eastern Steam Navigation Company, is to be completed in twelve months. Her keel has been laid down, and several of her bulkheads, or compartments, are raised, and the works are proceeding with energy and expedition. A railroad has been laid down the entire length of her way, to facilitate the conveyance of the materials from the factory to the different parts of the vessel. The exact dimensions of the ship are as follows:—Tunnage, builder's measurement, 22,000 tuns; tunnage burthen, 10,000 tuns; extreme length, 680 feet; extreme breadth, 83 feet; extreme depth, 58 feet; power of engines (screw and paddle), 2600 horse. Her engines are in the course of construction, and will be fitted in the vessel before she is floated off. The hull will be entirely of iron, and of more than usual strength, the magnitude of her size enabling Mr. Brunel, the architect, to introduce many precautionary measures conducive to support and security. From her keel up to six feet above the water-line is double, of a cellular construction. The upper deck will also be strengthened on the same principle, and will form a complete beam, similar to the tube of the Britannia bridge, so that any external injury will not affect the tightness or the safety of the ship. She is divided into ten separate water-tight compartments, each being sixty feet in length, enabling her to take out sufficient fuel for a voyage to Australia and back to England without stopping.

Discoveries in the Old Red Sandstone in Scotland.—The "John O'Groat Journal" says, within the last few weeks two very important and highly interesting discoveries have been made in the Lower Old Red Sandstone beds of Wick and Thurso, by Mr. Peach of this place, the well-known naturalist and zoologist. Fossil wood and shells, the existence of which in Caithness was hitherto unknown, have been abundantly found *in situ;* the former at Thurso, and both wood and shells at Wick and in the vicinity; the shells having undergone considerable abrasion. These are facts extremely interesting to geologists, and will give new life to the explorers of the old red sandstone formation, bestowing, as they do, positive evidence of what has formerly been considered at best but doubtful—the existence of vegetable organisms *in the land* at the Old Red period.

English Patent Case.

Teeth.—In our excellent cotemporary, the London "Mechanics' Magazine," we find the report of an interesting patent suit which was tried before Lord Chief Justice Campbell, on the 27th and 28th of last June, and as it is one which interests dentists, who are neither few nor far between in point of numbers, we will present the whole pith of the matter, not only for their benefit, but for all others interested in patents.

The plaintiff was a Mr. Truman, the defendant a Mr. Bellis. The charge was for an infringement of a patent granted to the plaintiff, on the 15th August, 1848, for an invention entitled "An improved method of constructing and fixing artificial teeth and gums, and of supplying deficiencies in the mouth." It consisted in fixing artificial teeth upon a skeleton frame, by rivets or pins, like fixing them upon plates in the usual way; then gutta percha was placed underneath so as to form the bearing to rest upon the natural gums, the gutta percha being also pressed up over the sides of the frame and round the bottom of the teeth, to the same hight as the natural gums before they were deprived of teeth. The defendant called several witnesses to prove the application of gutta percha in various ways in the manufacture and repair of teeth before the date of the patent, and amongst others a dentist, who testified that he had repaired a set of artificial teeth for an aged lady, and the gums having fallen, he put in a layer of gutta percha under the plate so as to rest upon the natural gums, and then pressed it over the sides of the plates and around the bottoms of the artificial teeth.

The Lord Chief Justice upon this testimony declared this to be exactly what was claimed and described by the plaintiff, and the Jury was directed to give a verdict accordingly.

Electric Engines.

Messrs. Editors—I notice in your journal of this date an article on Electro-Magnetism, signed J. Mascher; as I have never heard of this person before, I cannot know anything of his opportunities for obtaining knowle ge on the subject, but from the absurd and ridiculous positions he has therein assumed, and the conclusions drawn from them, his cultivation on this subject must have been to very little profit. I do not propose to discuss his fallacies or be drawn into any controversy on the subject. My reason for noticing the article at all is to correct a statement therein contained, which is utterly false, namely, that the engine of Prof. Page was a failure. Prof. Page's engine has not yet been proved defective in any particular, and there has never yet been published by the most scientific and learned, or by any one else, any tangible reason why the machine of Prof. Page will not operate cheaply and efficiently. May I trouble you to give the above an insertion in the columns of your journal? J. J. G.

New York, July 29th, 1854.

[Will the author of the above, who has been familiar with the experiments of Prof. Page for some years, have the kindness to inform the readers of the "Scientific American" how successful the said Electric Engine has proved—to what practical purposes it has been applied—how long it has been in operation, and something about its present state and condition? It will be interesting for the public to know all the facts of the case. We assure him the community will not rest satisfied with the simple charge of *falsehood* against the assertion of the failure of said engine,—the opinion expressed by Mr. Mascher being the one generally entertained in the community.

New Brunswick Patent Law.

Messrs. Editors—In the "Scientific American," Nos. 4 and 5, this volume, you published an abridgment of the law of New Brunswick relating to Letters Patent for new and useful inventions; our government fee, as therein stated, which was required to be paid by any other than a British subject, was $200. I am now happy to say to you, for the information of your numerous readers, that after the first of next month, that charge is reduced by the Revised Statutes of 1854, to $40.

As we have a large amount of ship building and various kinds of steam and water-propelled machinery in New Brunswick, I entertain a reasonable hope that some 115 miles of railway, connecting this thriving city with the Gulf of St. Lawrence, will be in successful operation by the autumn of 1856, we may fairly anticipate a prosperous field in this country for very many of the useful patents which have originated in the United States.

Peter Stubs.

St. Johns, N. B., July 25, 1854.

White Blackberries.

The "New Albany (Ind.) Tribune" says:—Now don't laugh at the seeming incongruity of the thing. A friend of ours from Franklin township laid on our table yesterday, a fine specimen of *white* berries, gathered from the common blackberry bush. They are equal in flavor to any blackberry we ever ate, and would make a splendid preserve.

A letter from Alexandria, in the "Trieste Zeitung," says that the coasting trade in the Red Sea is nearly destroyed, all the coffee which was formerly sent to Suez from Arabia being now sent to England in British vessels, which have discharged cargoes of coal in that port,—much of it being brought back to Egypt from England.

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New Inventions.

Gas Regulators.

On page 342, this vol. Sci. Am., there was published the claims of a patent granted to Thomas H. Dodge, of Nashua, N. H.,the object of which invention we deem should be more distinctly known than can be from reading the claim. The improvement is intended principally to regulate the consumption of gas by a number of burners, by causing the pressure in every one that is lighted to be uniform and uninfluenced by the number of the others that are lighted or by the pressure on the main.

It is also adapted to regulate the flow of fluid at a given pressure, without regard to the quantity used, or any variation in the size of the outlet, or in the pressure on the main outlet.

To accomplish these objects two chambers are employed, which are placed side by side, and communicate with each other at the bottom through an open passage, and at the top by a passage which is opened and closed by a valve attached to a float, placed in one of the chambers, to be acted upon by water. This chamber containing the float communicates with the outlet where the gas is consumed and discharged, and the other chamber receives the inlet pipe. The pressure of the gas on the surface of the water in the inlet chamber, forces it (the water) upwards in the outlet chamber, in which the pressure raises according to the number of burners lighted in the area of the outlet, and this causes the water level to vary, and also the float, to give the valve a suitable amount of opening. The float and valve are also influenced by variations in the pressure in the inlet pipe, so as to contract the opening of the valve when the pressure increases, and *vice versa*.

Regulator for Gas Burners.

It has long been an object of no little solicitude to obtain some perfect and simple means of regulating the escape of gas in the burner, so as to have a steady flow under all pressures and thus a flame of constant size and brilliancy. This has been accomplished by Andrew Mayer, of Philadelphia, who has taken measures to secure a patent for the same. The improvement consists in making the regulating valve in the burner in the form of a hollow cone perforated at the apex to allow of the passage of no more gas than is sufficient to supply the burner when the gas is at the highest pressure and has lifted it (the valve) to its seat at the top of the recess which contains it. It has openings round its base or lower edge, which when the gas is at its lowest working pressure, and the cone rests upon the bottom of its recess, allow of sufficient gas to pass to be consumed. A single valve of this description works more effectually than a number of the disk valves now in use applied one above the other, and which produce a disagreeable whistling noise, which is totally avoided by this valve.

Improved Ventilating Chimney.

Figure 1 is a perspective view, and figure 2 is a vertical section of an improvement in ventilating chimneys, for which patents, both home and foreign, have been granted to Joseph Leeds, of Boston, Mass.

A is an interior iron chimney, and the outside one is of brick, with an air space, B B, between. C is the cap of the interior and exterior. The inner one should rise about two-thirds as high as the outer, or higher, if rooms above require to be ventilated by it. The heat from combustion, as it passes up the inner chimney, radiates largely into the air chamber, between the chimney, and holes or inlets made at the bottom, as shown by the arrows, admit atmospheric air, which rarefies, ascends rapidly, and draws on the inner flue as it passes up and off.

This chimney operates in a very simple yet efficient manner. It can be built wholly of iron, or brick and iron; its shape may be round, or square, or many-sided. The patentee says it combines the following advantages, namely: "proof against fire; a perfect draught wherever it may be built; at fifty feet in hight it will give as much draught as any other chimney gives at one hundred or more feet high. In buildings, large or small, the fires in different stories or rooms, (heaters, stoves, forges, and furnaces,) can have the products of combustion, conducted into this chimney, with a certainty of perfect draught in each, so that one chimney can serve a large building. It can ventilate every story in a building, and draw off dust and impurities of every kind. In factories of all kinds it can draw off the same, besides the particles which fly from cotton, wool, rags, &c., thereby promoting health and vigor among the operatives, besides adding much to their comfort. It can be built as cheap as other chimneys; it saves twenty-five per cent in fuel."

The above is not theory, it is in practical use and operation and highly approved.

Quite a number of these chimneys, we understand, have been put up in Boston and Philadelphia, and give great satisfaction. The principle of a double chimney for ventilation and draught appears to be good.

More information may be obtained by letter addressed to Mr. Leeds, 27 State street, Boston, or 22 North Ninth street, Philadelphia, Penn.

LEED'S VENTILATING CHIMNEY.

Fig. 1

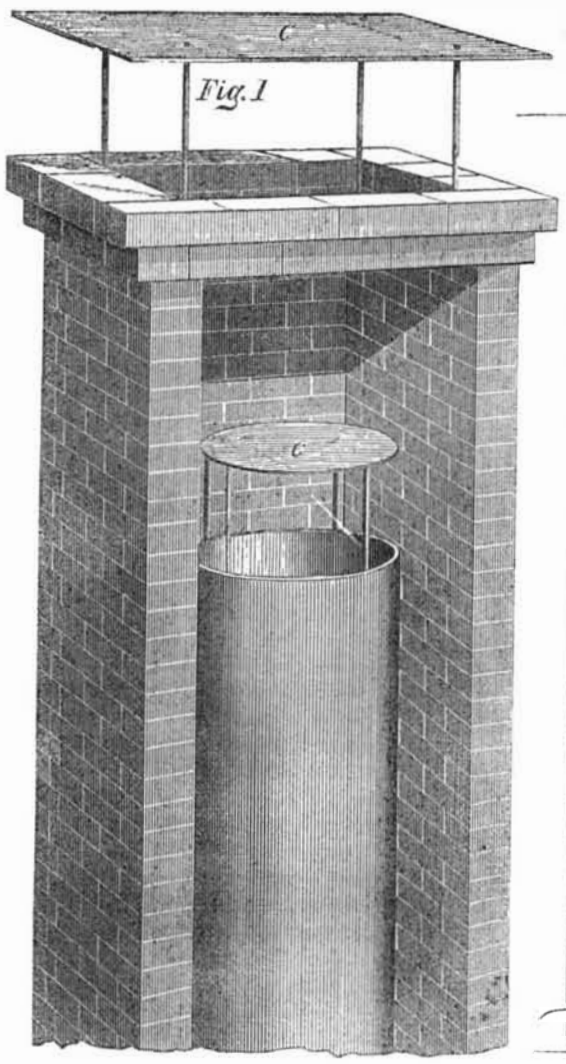
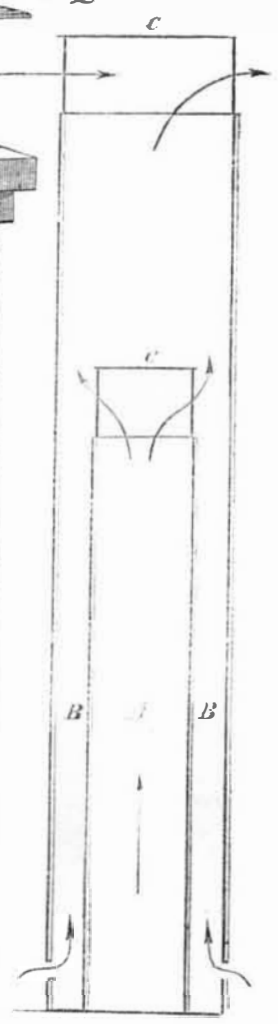
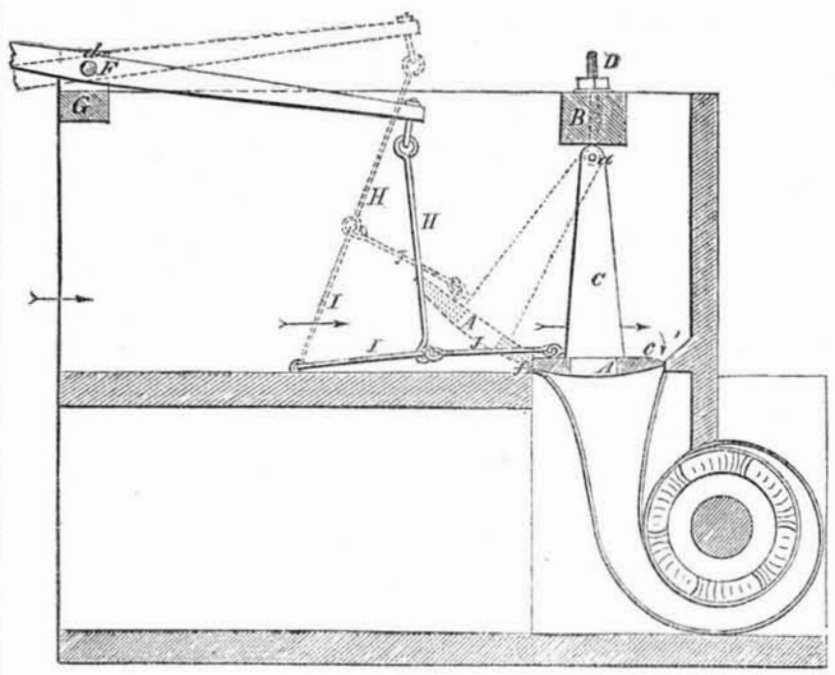


Fig. 2



GATES FOR RE-ACTION WATER WHEELS.



This figure illustrates an improvement in operating the head-gates of Re-action Water Wheels, for which a patent was granted to Hartwell L. Turner, of Strykersville, Wyoming Co., N. Y., on the 27th of June last. The figure is a vertical section of a flume, &c., for two re-action water wheels arranged on a horizontal shaft.

The nature of the invention consists in a new and simple manner of arranging and operating the head gates of re-action water wheels, whereby the great difficulty in hoisting, lowering, and keeping in order, and preventing leakage, can be perfectly overcome, and gates of any size opened and closed with facility and great ease.

A represents the head-gate of a water wheel, it is attached firmly to the cross-head, B, by the jointed bar, C D, and swings freely, as it is raised and lowered on the pin, *a*, which connects the eye bolt, D, and bar, C, together. The eye bolt, D, passes through the cross head and has a thread formed on it, and a nut screwed on the same. By this nut and screw, the gate can be adjusted so as to clear the fall block about a quarter of an inch, as occasion may require. The bar, C, is placed in nearly the center of the gate, and the gate is beveled at *c* down to one half or one quarter of an inch thick at the back edge, said bevel commencing about three inches forward of the back edge, as shown in the engraving. By thus hanging the gate and beveling its back edge, it will be almost perfectly balanced, and consequently it can be hoisted with ease, and also lowered without jarring; for it must be evident that as the water rushes over the gate. and cannot escape, it must necessarily exert a pressure upon the same, and as the back edge is inclined or beveled at *c*, this pressure will come in contact with the said beveled part in the manner indicated by the arrow, 1, and balance the same, and also aid the operator in hoisting the same as the pressure is exerted in the direction in which it is moved when being hoisted. The bevel also serves to prevent the gate closing too hard for the resistance of the water against said bevel surface will be much greater than of the whole surface of the gate was even. The bottom of the gate is made concentric with the hinge joint, *a*. A strip of leather, *f*, is nailed on the part edge of the gate, and laps over the space between the fall block and gate, and serves to prevent leakage. F is a lever attached to the front cross head, G, by a fulcrum pin, *d*. The front end of this lever is hinged to a connecting rod, H, which is jointed to another similar rod, I, hinged to the fall block; these two rods form a knee joint. J is a rod for connecting the gate to said knee joint and lever. This rod is hinged loosely to the bar of the gate, and to the joint of the rods, I J. By means of the lever, knee joint, and connecting rod, the gate can be raised with ease to the position shown in dotted lines, and lowered without jarring, to the position shown, when the gate is lowered or closed. It is by hanging the gate on a hinge at *a*, and making it beveling at *c*, that the difficulties heretofore experienced in opening and closing the ordinary gates of water wheels are overcome, and it is these features, in connection with the raising and lowering contrivance, that constitute the invention.

More information may be obtained by letter addressed to the patentee.

Tape Worm Trap.

In the line of modern inventions, perhaps none excel in novelty and singularity one for which a patent has been applied for, by Alpheus Myers, of Logansport, Ind. It is nothing less than fishing for worms in the human stomach, in order to remove them—especially the tape worm—without employing medicines.—He has made a small trap, on which a bait is secured, and after fasting for some time, the patient swallows the trap and bait, the latter being snapped at by the worm, which gets its head into the trap, and is at once drawn to the surface, a captured tenioid.

Converting Rotary into Reciprocating Motion.

James Harrison, of Milwaukie, Wis., has taken measures to secure a patent for a new method of accomplishing the object set forth in the above caption. Three pins are secured to the side of a wheel, and made to project from it, parallel with the shaft. This wheel works within a frame provided with yokes and grooves, and as it (the wheel) revolves, the pins catch into the yokes of the frame and communicate a reciprocating rectilinear motion to the frame.

Circular Saws.

James Slater, of Macon, Ga., has taken measures to secure a patent for an improvement in circular saws, the object of which is to make the saw in such a manner as to relieve the steam engine which drives it. Portions of the edge of the saw are cut out, at places opposite to one another, and the saw is so arranged in relation to the crank pin of the engine, that its teeth will not come in contact with the board or log while the said pin is passing the dead points.

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Scientific American.

NEW YORK, AUGUST 12, 1854.

Ocean Telegraph.

No project of the present day is of more importance than the union of the Old and New Worlds by the lightning railroad. That such an event will be consummated some day not many years hence, we have not the least doubt, and all honor, as their just due, will be awarded to those men who had the courage and the means to plan and accomplish this grand enterpri e. We understand that a company, having this object in view, has been organized in this city, and from the high standing, wealth, and experience of some of its members, we expect that the word *fail*, will form no part of their vocabulary. Peter Cooper, Esq., is President, and Professor Morse is Vice President; T. P. Shaffner, of Washington, Secretary of the American Telegraph Association, being one of the most active directors. Dr. Turnbull, of Philadelphia, author of an excellent work on the telegraph, in an article in the last number of the "Journal of the Franklin Institute," discusses the practicability of an Atlantic telegraph, and comes to the conclusion that there are no difficulties in its construction and operation which may not be overcome. The difficulty consists principally of three parts. First, the depth of water in the ocean, and the form of its bottom. Second, the laying down a marine cable of such a great length; and finally, the working of such a long line. The distance between Newfoundland and Ireland, on the projected line, is about 1600 miles, and there has been discovered an ocean plateau, between the two places, the surface of which is very level, and disturbed by no ocean current, consequently, this is very favorable to laying down a marine cable and preserving it from injurious action when it is laid. Two or three steamships could lay down the cable in three or four weeks and a perfectly insulated wire can be worked the whole distance with a "Grove battery" of 480 cups. There does not, therefore, seem to be any very serious difficulty to the accomplishment of this scheme; the greatest we suppose, will be the money, for the cost cannot be less than between two and three millions, but this amount will eventually be obtained. If the bed of the ocean between every point of America and Europe had been formed of sub-marine hills and valleys, with abrupt precipices and deep rolling currents, we would have concluded that it was impracticable to lay down and work a marine cable of such a length; but since it has been discovered that nature has provided such a favorable ocean route for the lightning railway, we now look forward with hope to the speedy accomplishment of this grand project.

The Beard of Man.

Allusion to this physiognomic appendage a few years ago, by any solid periodical in our language, would almost have been considered sacrilege, or only have provoked a smile; but now we find the grave old heavy quarterlies discussing the point of "beard or no beard," with as much gravity and seriousness as the Farmers' Club of the American Institute when debating the claims of the latest improvement in poudrette or superphosphate of lime. Persons who two years ago turned up their noses at those who paraded beards, as being somewhat akin to savages, or nothing better than ignorant foreigners, are now to be seen parading our streets "bearded like pards," and fierce looking as hyenas. Thus it is, fashion is king; he rules in the court, the camp, the promenade, and the busy mart.

The last number of the "Westminster Review," discusses this question in all its length and breadth, and while it favors the beard as an excellent respirator, it leaves the matter in the most hopeless case of indecision, by concluding, that while it is a very fine face appendage for *some* men, "in a vast number of cases its assumption should be forbid, as certain dresses do not become diminutive women, and must be worn to display their effect by those of noble stature." This is certainly a sublime argument in favor of the beard, by one of your solid Dons of literature, namely, beards are only for tall men, but forbid to small men. The only argument in favor of wearing the beard with us, is the saving of time spent in shaving, and the infliction from dull razors. We think the majority of men look better without than with beards, and so far as it relates to health—the beard being a respirator—we think there is much moonshine in such an argument. Some men say that nature gave man a beard for some purpose, and it is a violation of her laws to denude the moustache and annihilate the whisker. "Nature's chief motive," says the "Westminster Review," "for investing man with the beard may consist in her love of exhaustless variety." But as females have no beards, and as nature "first tried her prentice hand on man," and then made woman, it may be suggested that the unbearded type is the most perfect, and that the moustache is but a useless and unornamental appendage. Thus arguments might be advanced for and against the beard, consequently every man will just apply the one that suits himself best in this free country.

Baker's Boiler Furnace and the Fire Annihilator.

From a copy of the Boston "Advertiser" sent to us marked, we find the account of two experiments made at the Navy Yard, Charlestown, in the presence of deputations from the municipal governments of Boston, Cambridge, Lowel, Charlestown, and Providence, R. I., with the above named inventions. The account of the experiments is of the most vague and unsatisfactory character. Indeed, we learn from the "Advertiser" that they were made for the purpose of showing that carbonic gas is heavier than air, and especially "hot air." The following letter from the "Advertiser" will show this:

"One feature of the operation of these furnaces is that the carbonic acid gas which is generated in the fire, being heavier than air, and especially heavier than hot air, falls into a portion of the flue provided for it—instead of being confined with the fire, and tending to put it out, as is the case in ordinary furnaces.

The importance of this feature of the invention was made to appear by an exhibition of the Fire Annihilator in the Square, in Charlestown, after the party had returned from the Navy Yard. A pile of tar barrels was ignited, and while brilliantly burning, two Annihilators, not of the largest size, were applied, and the fire was instantly extinguished. The complete success of this experiment will not surprise our readers before whom we have repeatedly laid similar accounts. As a principal element of the stream which issues from the Annihilator, and proves so potent in extinguishing the flames, is carbonic acid gas; the success of the experiment showed the value of that feature of Baker's Furnace, which excludes this gas from the fire under the boiler."

This is a very confused and miserable account of the matter. The product of perfect coal combustion is carbonic acid gas, which never can form part of the flame, nor be retained in a furnace having a good draught for it is equally hot with the hot air mentioned above. In fact, hot air in any furnace, shows that more than the amount requisite to produce perfect combustion has been taken in, and so far is a loss. In equal volumes, air and carbonic acid have the same capacity for heat; in equal weights, the carbonic acid is to air as 0·6557 to 1, according to Haycraft, and therefore more sensitive to heat than air. We cannot conceive how the Annihilator afforded any satisfactory data for the carbonic acid in Baker's Furnace falling down into its hollow arched flues, because the stream generated in the Annihilator consists of carbonic acid, and carbonic oxyd gases, and some sulphur nitrous oxyd, and besides these, a great quantity of steam. How in the name of science the "Advertiser" came to lug in such a comparison as proof for any kind of useful action claimed for Baker's Furnaces, is more than we can imagine. Such wrong and incongruous comparisons do no good, but evil, as it may lead those capable of judging of such matters, to look upon the affair with suspicion.

Stame and Steam.

Messrs. Editors—In your article on "improvements in the use of steam," in the last number of the "Scientific American," you have been led by previous articles on the same subject, in the daily papers, into some unintentional errors respecting our invention for increasing the power of steam.

It may be inferred from your remarks that we are using "stame" as a motive power, and ordinary steam merely as a lubricator. What we have patented is the combination of saturated steam and super-heated steam as a motive power, &c. The result of our experiments proves conclusively "combined steam" to be greatly superior to either steam or stame, the latter has always failed for the reasons given by you, "the licking up of oil, and injury of packing." The combination acts not only as a lubricator, but adds enormously to the power, by the great expansibility imparted to the ordinary steam, by the convertion of the watery particles which go over from the boiler mechanically mixed with it into steam, besides rarefying the steam itself by means of the additional heat imparted to it by the super-heated steam.

Steam as generally used contains a larger portion of water than is supposed. A commission, appointed by the French Government. have lately made an exceedingly interesting report on this subject, which fully agrees with the results of our experiments, for we have ascertained that only about one half the quantity of water required for ordinary steam is necessary, while using the combined steam, for the performance of the same amount of work.

Wethered Bros.

Baltimore, Md.

[In the article referred to—page 365—we distinctly stated that Messrs. Wethered had obtained a patent for stame and steam combined "for actuating engines." No one we think, could infer that the saturated steam was used as a lubricator by the patentee, but it may be nferred from our remarks that this was the important office it performed, as we believe it is. It is indeed true that when the super-heated steam and the common steam are united, that the latter is greatly expanded, for the reasons stated by our correspondent; but does it become more expanded than if it were all converted into stame? We trow not. Mr. Isherwood, in his article on the subject in the "Franklin Journal," did not give an opinion on this point; he left that to his readers, as if it were inexplicable to him. We will adhere to our theory until a better one is presented.

So far as it relates to common steam containing a large portion of water, in minute globules, we were well aware of this fact—every engineer is—as was the great improver of the steam engine—James Watt—forty years before the French Commission was appointed, and it is not a little remarkable that he has left on record the admission, that his very best engines used double the amount of steam required by calculation, thus corroborating the recent experiments of Messrs. Wethered.

Our own opinion respecting stame is simply that it is common steam deprived of its watery particles—anhydrous steam. We believe that some moisture in steam enables it to move the piston of a steam engine more sweetly—a partial lubricator—than if it were perfectly dry, and this is the only good feature which appears to us, is embraced in using stame and steam combined.

The Cholera—its Causes and Treatment.

We have received a letter from Henry Kenyon, of Roxbury, Mass., in which he states that the total suspension of the action of the liver is the cause of Cholera. To allay vomiting he recommends, first, drinking a weak solution of of the super-carbonate of soda, then a weak solution of tartaric acid—the quantities of the several papers composing common seidleitz powders—so as to generate the carbonic acid gas in the stomach. He says he has found this method allay the most severe vomitings, with one or two doses. After this he gives for an adult ten grains of calomel and ½ a grain of opium made into a pill. The pill being retained, administer two table spoonsful—every two hours—of the following mixture:—Chalk mixture 5 ounces, tincture of catechu ½ ounce, tincture of opium thirty drops, carbonate of soda one scruple, each alternate hour administering a pill, composed of calomel six grains, opium one grain—formed into six pills—allowing the patient to drink as much cold spring water as choice may dictate.

In Hall's "Journal of Health," issued after we received the letter from Mr. Kenyon, we find a striking similarity of views expressed in the causes and treatment of the Cholera. The causes of the disease is held to be the same by both, but the treatment is a little different.—He says:

"Cholera being a disease in which the bowels move too much, the object should be to lessen that motion, and as every step a man takes increases intestinal motion, the very first thing to be done in case of cholera is to secure quietude.

Perfect quietude, then, on the back, is the first, the imperative, the essential step towards the cure of any severe case of cholera. To this, art may also lend her aid towards making that quietude more perfect, by binding a cloth around the belly pretty firmly. This bandage should be about a foot broad, and long enough to double over the body; pieces of tape should be sewn to one end of the flannel, and a corresponding number to another part, being a safer and more effectual fastening than pins.—When the Asiatic scourge first broke out among the German soldiery, immense numbers perished; but an imperative order was issued, in the hottest weather, that each soldier wear a stout woollen flannel abdominal compress, and immediately the fatality diminished more than fifty per cent. If the reader will try it, even in cases of common looseness of the bowels, he will generally find the most grateful and instantaneous relief.

The first step, then, to be taken where cholera prevails and its symptoms are present, is:

1st. To lie down on a bed.

2d. Bind the abdomen tightly with woolen flannel.

3d. Swallow pellets of ice to the fullest extent practicable.

4th. Send for an established, resident, regular physician. Touch not an atom of the thousand things proposed by brains as 'simple' as the remedies are represented to be, but wait quietly and patiently until the arrival of your medical attendant."

If a physician cannot readily be obtained, he says, "obtain ten grains of calomel and make it into a pill with a few drops of water, dry it a little at the fire, and swallow it down, and if the passages do not cease in two hours, swallow two more such pills." The calomel pill sinks to the bottom of the stomach, like a bullet, and cannot be vomited. He also asserts, that eating fruits, or a heavy supper before going to bed, is a frequent cause of cholera.—His article on the subject contains a great amount of sound, and as we consider, perfectly reliable information on the subject, and this he has derived from a very extensive experience. The cholera has been somewhat prevalent in this city, during the past few weeks, but the mortality has not been one-third as great as in 1849.

Sawing Machinery.

Just as much importance is attached to improvements in the feeding operations of saw mills, as in the sawing or cutting devices and any arrangement, for a perfect machine, is not so in part, but as a whole. To render the feeding arrangements of saw mills more perfect, Loren J. Wicks, of this city, has made the feed clamps and guide rollers self-adjustable, by means of racks and pinions, and for this improvement he has taken measures to secure a patent.

Solid Headed Pins.

E. Lowe, a practical pin maker, now residing at Providence, R. I., informs us by letter, that pins with solid heads were made in England 50 years ago, by D. F. Taylor, and that his brother in Birmingham, England, now manufactures solid headed pins, having seven machines in operation, each turning out 200 per minute.

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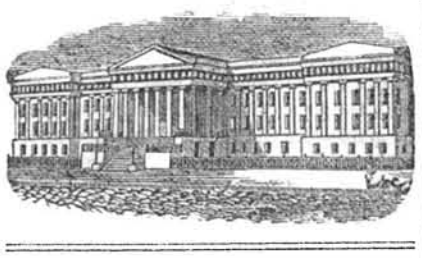

[Reported Officially for the Scientific American.]

LIST OF PATENT CLAIMS

Issued from the United States Patent Office

FOR THE WEEK ENDING AUGUST 1, 1854.

MATCHES—Elkan Adler, of New York City: I claim, first, the perforated dipping board, moved and combined with the sliding frame, as set forth.

Second, the combination of the springs, levers, shafts, pawls, rods, and button, as described.

Third, the knives, in combination with the connecting piece, crank, and lever, as set forth.

Fourth, the ground rollers, in combination with drum, grooved tables, and knives, as set forth.

Fifth, the combination of the driving wheel, roller wheels, intermediate wheel, and drum wheel, as set forth: the various parts of the whole machine being combined and arranged for the purpose described.

LUBRICATING MATERIAL—William Little, of the Strand, Middlesex, Eng. Patented in England July 14, 1853: I claim the combination of the coal oil, or heavier oily product, resulting from the second distillation of bituminous coal (or a matter that will so produce a like oil) with a saponified vegetable, animal, or fish oil or fat, and whether the coal oil be combined with the vegetable, animal, or fish oil, or fat, after or during the saponifying process.

BITS FOR CARVING MACHINES—C. F. Bauersfeld, of Cincinnati, Ohio: I claim the formation, as described, of an excavating bit, having its longitudinal contour corresponding to the designed vertical section of the relievo, and grooved, as described, along its sides and across its lower end or face, at or near the plane of its axis, for the purposes explained.

BRICK PRESSES—C. B. Baker, of Troy, N. Y.: I do not claim constructing a sector-shaped follower with a rectilinear nor a single curved concave pressing surface.

But I claim constructing it with a pressing surface of two circular or curved concaves, which are proportioned to the increase of the distance from the center of motion of the quadrant, as set forth.

STEAM BOILER TUBES—R. C. Bristol, of China, Mich.: I claim the cutting, impressing, or otherwise increasing one of the surfaces of tubes, or sheets of metal, which said surface is to form the radiating side of boilers, flues, or vessels, for the purpose of imparting heat to any liquid, vapor, gas, or to atmospheric air, when said cutting or impressing is of such a character as to admit of being made after the plates are bent up into form, as described.

STONE SAWS—G. W. Cherry, of New York City: I do not claim, generally, making saw plates for cutting stone with channels at the sides, as vertical channels or grooves are not new.

But I claim, first, constructing saws or blades for sawing or cutting stone, with inclined side grooves extending entirely across the body of the saw or blade, as specified.

Second, the use of fine grooves, depressions, or holes made in the saws or blades, between the sand passages, as set forth.

Third, constructing saws or blades for sawing or cutting stone, alternately of hard and soft metal, in the direction of their length, as described.

DRYING THICK PAPER—Ephraim and J. R. Cushman, of Amherst, Mass: We claim drying thick paper, and at the same time preventing it from warping out of shape, to wit, by placing the sheets in a pulpy state upon heated tables or platforms, and allowing them to remain until they harden to such a degree as to begin to warp out of shape, and then causing open or lattice weights to be let down upon them, which rest upon their edges or points at different parts of the sheets and preserve them in flat positions until entirely dry, as set forth.

DOOR LOCKS—William Cayce, of Franklin, Tenn.: I claim the arrangement of the levers and pawls with the bolt, as described, that is to say, the levers being guarded by the tubular key hole, projecting inwards over them, and the pawls protected by the broad bolt beneath them.

UNITING PLATES OF METAL OF UNEQUAL THICKNESS—Jeremiah Carhart, of New York City: I claim, first, making the punch and die of such relative sizes, that the punch shall be incapable of entering the die at all, or of entering it with the same degree of freedom as would be necessary in an ordinary punching operation, as set forth.

Second, making the punch holder with a concave recess in its face, or otherwise furnishing the back of the punch with a shouldered face, which shall bear upon the face of the piece of metal which is entered by the punch, only in a ring at a distance from the punch, as described.

Third, the employment of an upset plate, placed as described, after the punching operation between the die, and that portion of one plate or piece of metal which is protruded through the other, so that by repeating the movement of the punch, the said protruding portion may be upset or riveted. This I claim, irrespective of any mechanism that may be employed to carry the upset plate to and from the die.

HOT AIR FURNACES—John Carton, and Joseph Briggs, of Utica, N. Y.: We claim the inverted cone or deflector, when placed at the top of the chamber of hot-air furnaces, as set forth.

MAGNETO-ELECTRIC MACHINES—Ari Davis, of New York City: I claim the insulation of the journal of the shaft in combination with the single conducting spring in magneto-electric machines, as described.

DRAUGHTING AND MODELING VESSELS—H. C. Deputy, of Michigan City, Ind.: I claim the application of diagonals to draughting and modeling all kinds of vessels propelled by steam or otherwise.

Also the principle by which the exact concavity of concave water lines is determined, viz., by transferring the intersections of the water lines, in the body plane, with each frame to half breadth plan, as shown and described.

SAWING FIRE WOOD—John J. Efferenn, of Springfield, Ill.: I claim the combination of a saw and saw horse with fly wheels, as described, through the agency of a lever, arm, and crank.

MOLDING CRACKERS—Phineas Emmons, of New York City: I claim the use of the roller, made as set forth with cutters in its channel, in combination with the feed rollers, for forming and cutting dough into suitable shapes for making crackers, as set forth.

I also claim, for rolling dough in ball, the conical or nearly disk form of the wheels, whereby they are made by their oblique position on their axes, to combine a twisting and rolling motion, the rolling motion only having heretofore been employed in cylindrical grooved rollers.

REVOLVING BREECH FIRE ARMS—Josiah Ells, of Pittsburg, Pa: I claim, first: the use of a stud in the trigger vibrating laterally, in combination with a bevel-edged hammer, with a notch at its toe, by means of which, by simply pulling the trigger, the hammer is raised and may be either allowed to stand at full cock, or fixed at pleasure, while the trigger after firing will regain its position for repeated action.

Second, the use of a double spring or springs and lever, for the purpose set forth.

Third, the mode described of locking the rotating breech, at the moment of firing, by means of the locking bolt, in combination with the cam shoulder on the trigger, and the hexagonal neck of the rotating breech, which nevertheless permit the breech to be fully rotated by hand, or otherwise, when the trigger is not drawn back.

COMPASSES AND CALLIPERS—John E. Earle, of Leicester, Mass.: I claim the combination of the hinged arms screw rod, and nut, with the hinged legs of compasses or dividers and callipers, for the purpose of moving or holding said legs in both directions anywhere within the line of their sweep, as described.

PENS—W. R. Glover, of Glasgow, Ky.: I claim attracting lips to the pen, as shown, for the purpose of preventing the ink from ascending in the pen, and coming in contact with the fingers.

BRICK PRESSES—Isaac Gregg, of Pittsburg, Pa.: I claim giving a quivering or shaking motion to the combined brick discharger and mold duster, by means of the elastic pin, which projects therefrom, acting upon the serrated edge, or by equivalent means, as set forth.

I also claim the cutters, or pulverizers, when arranged and operating as described, in combination with the pressure roller, for the purpose of breaking up and pulverizing the hard crusts of clay produced by said roller, and for the properly working and supplying clay to the molds.

LATHING BUILDINGS—B. F. Gold, of New Haven, Conn.: I claim, first, the mode of making spaces between lath, by turning spacing pins which are attached to slides, as specified, the mode of turning being by arms.

Second, stationary spacing pins, to make equal spaces between breaks of lath, and as a permanent footing against which lath are spread to touch the gauges. The spacing pins are on the rear of the frame.

Third, the gauges which are placed in front of any required number of lath, and are requisite to control the width of breaks, the spaces between the lath, and to keep them level.

ATTACHING THILLS AND POLES TO VEHICLES—Abram J. Gibson, of Clinton, Mass.: I claim the manner of attaching thills or poles to vehicles by means of a steel spring, or its equivalent, as set forth.

ATTACHING WHIFFLETREES TO VEHICLES—A. J. Gibson, of Clinton, Mass.: I claim the manner of attaching the whiffletree to vehicles by means of a steel spring, as set forth.

WASHBOARDS—Joseph Hyde, of New York City: I claim first, the employment of the elastic or semi-elastic knuckles, each distinct, but the whole forming a compact series over the whole rubbing surface of a washboard of any usual or convenient form, by methods described.

Second, I claim, in combination therewith, the rubber connected to it, as described, so as to reverse to either side of the board, and swiveling, if desired, in its own immediate bearings.

SHOT POUCHES—John M. Hathaway of New York City: I claim the devices arranged as described for securing the top or chargers to the pouch, viz., the lugs, slots, and thumb catch operating as set forth.

I also claim the method of gauging the charges by means of the inner and outer tubes or barrels moving one within the other, and the slides working therein, and adjustable by means of the hollow thumb lever, rod, and nut, as set forth.

RAILROAD CAR COUPLINGS—David A. Hopkins, of Elmira, N. Y: I do not claim the application of the spiral spring to the block, for spring blocks have been previously used; neither do I claim the employment or use of an india rubber spring for buffers, for that has been used in various ways. Neither do I claim the buffer nor any peculiar arrangement thereof, nor the draw head irrespective of the peculiar form of the mouth, as shown.

But I claim having the draw-head formed with a wide or flaring mouth and narrow neck, as herein shown, and using in connection therewith a block, the front surface of which is of a circular concave form, with recesses across it whereby the links may be held in a horizontal or in inclined positions, as set forth.

SUBMERGED PADDLE WHEELS—William F. Ketchum, of Buffalo, N. Y.: I claim the arrangement of the centrifugal wheel relatively to the charge and discharge openings of the casing and the division of the interior of the said casing by the partitions so as to form the openings so that the wheel shall take in water at its center, and discharge it out of said openings on each or both sides of the stern post, as set forth.

MORTISING MACHINE—William Henry Morrison, and M. W. E. Doran, of Indianapolis, Ind.: We claim the combination in boring and mortising machines of the alternately rising and falling chisels, with the auger, so that both are in operation at the same time as set forth, or by any known equivalent mechanical means, also the combination of a number of such sets of chisels and augers for cutting mortises of greater or less length.

HOUSES FOR SWITCH FENDERS—Willis Mansfield, of New Haven, Conn.: I claim neither switches, switch houses, switch gates, or latches, nor do I claim any kind of door, or shutter, or connecting rods for actuating the same.

But I claim the connection between the switch house door or its equivalent and the switch or the actuating mechanism thereof when said mechanism is arranged in the manner described.

STONE AND MARBLE SAWS—William Watson, of New York City: I claim making saw plates for cutting stone with channels at the sides for the supply of sand to the lower edge.

And I also claim the excavations or notches on the lower edge as described to contain and permit the sand more effectually to get under the edge of the saw plate as set forth.

FEED WATER APPARATUS TO STEAM BOILERS—Benj. F. Bee, of Harwich, Mass.: I do not claim in boiler feeders a water chest and slide valve operating in connection with a water supply vessel, and arranged so as to be self regulating in keeping up a proper level of water in a boiler nor yet causing the steam from the boiler to act by pipe conveying it thereto upon the surface of the water in the supply vessel to facilitate the discharge of water therefrom to the boiler.

But I claim the arrangement herein specified of the double slide valve, water chest, and steam and water passages with the water supply vessel when the said supply vessel is made to form a compressed air receptacle by the immersion of the supply pipe below the top surface of the water therein, or the compression of the air in the supply vessel being otherwise equivalently produced, and so that a strong atmospheric pressure is brought to bear upon the surface of the water to serve conjointly with the steam passing from the water chest through pipes into the compressed air receptacle to establish that necessary equilibrium of pressure above and below the water in the supply vessel to produce a flow, and whereby the effect by condensation or cooling of steam entering the supply vessel is neutralized and a more immediate and certain discharge of water into the chest insured as set forth.

I also claim the method described of varying the hight at which the water will be sustained by raising and lowering the chest and its attachments.

MACHINES FOR STICKING CARD TEETH—G. W. Coats, and J. Russel, of Springfield, Ohio: We do not limit ourselves to the special construction of parts when the same essential principles or combinations described are retained.

We claim the mode of imparting the intermittent motion to the main carriage for spacing the teeth and reversing the same by means of the screw leader attached to the main carriage and passing through a nut mounted in suitable boxes and rotated by cog gearing as described when this is combined with a clutch operated by a cam to clutch and unclutch the wheel which receives motion from the wheel or wheels on the main shaft, and imparts the required and measured intermittent motion to the nut as specified.

We also claim, in combination with the mode described of imparting the spacing motion to the main carriage the employment of the cams on the main carriage, which, at the end of each traverse motion, act on a lever connected and combined with and operating the clutch to clutch and unclutch the wheel, which receives motion from the main shaft to operate the shafting wheel, which operates the double clutch on the main shaft, as specified.

We also claim, in combination with the mode described of operating the main carriage, the mode of operating the second carriage, which holds the sheet of leather to determine the space between the rows of teeth by means of the shifting cam called the twilled cam, and the shifting sector cog wheel, which, in turn, imparts motion by the cog wheels and shaft to the cog wheel, through which passes the feather shaft mounted on the main carriage, and which, in turn, imparts the required motion to the drums for lifting the second carriage at the end of each complete motion of the main carriage.

And in combination with this, we also claim making the nut on the screw leader in two parts, divided by a plane at right angles to the axis, when the two parts are attached together, so that they can be turned on each other, as described, so that the threads can be set to any wear of the threads, and thus avoid end play.

We also claim making the arbors of the two rollers with cylindrical bosses, to determine their distance apart, in combination with the mode of mounting them between boxes, and without interposed boxes, the said arbors being prevented from having end play by means of V-shaped or curved fillets on the arbors fitted to corresponding cavities in the boxes, as set forth.

We also claim mounting the bending fingers in the sliding top plate independent of and below the slide or carrier of the former, around which the teeth are bent, the said carrier being provided with an inclined plane or cam acted upon by a light inclined plane on the top plate of the fingers, so that as the fingers are drawn back the former shall be lifted up preparatory to its back motion, as set forth.

MEASURING CLOTH ON LOOMS—Halvor Halvorson (assignor to H. Halvorson and Horace Barnes), of Boston, Mass.: I claim the combination of the following mechanical elements or their equivalents, when operated by a stud from the lay and by means of the cloth, the combination being as follows: first, the lancet or cutter for puncturing the cloth: second, mechanism applied to the lay, and the cutter for moving said cutter towards and into the cloth, and afterwards instantly out of the cloth, such mechanism as described, being the slide, the ratchet, the bar, with its tooth, and the spring. Third, mechanism for moving the slide bar into and out of the path of the stud of the lay, as specified, such mechanism, as described, being the bar, the notched wheel, the gear wheel, the single toothed pinion, the worm gear, the screw, and the wheel as applied or connected together, and operating as described.

I also claim arranging the lance or cutter on the breast beam, and close to the edge of it, when the cloth is bent downard towards the cloth roller, and when such lance or cutter has mechanism applied to it and operated by the cloth and the lay, so as to put the said lance or cutter into operation, as specified, such arrangement of the lance or cutter on the breast beam, and in close proximity to its rear upper corner, enabling the lance or cutter to pass freely through the cloth without danger of the latter being sprung away from it by the force of the blow, and resistance of the cloth, as will occur when the lance is situated below the breast beam, and becomes worn or dulled.

WARPING AND DRESSING YARNS—S. T. Thomas and Eliza Ann Everett, (admintrx. of Edward Everett, dec.) of Lawrence, Mass.: I claim, first, in warping and dressing yarns directly from small spools or bobbins, instead of large section beams heretofore used to sectional loom beams, for the purpose of securing a uniform tension in the yarns wound upon the loom beam, and also affording greater facilities for readily producing a variety in the stripe of the fabric, as set forth.

Second, is claimed our improvement in the fan cylinder for drying the yarns, which consists in a cylinder composed of slats arranged with spaces between them, and around which slats the yarns are made to pass, revolving fans being arranged within the said cylinder, and revolving independently of and at a much more rapid rate than said slatted cylinders, whereby a large portion of the yarns are kept in a gentle current of air rapidly dried, as described.

FASTENING LANTERNS—Chas. Mounin and W. N. Booth, of Buffalo, N. Y.: We claim the application to lanterns of the cylindrical or hollow ring, enclosing one or more metallic clamps or dogs, which move horizontally through apertures into a groove, as set forth.

CAR WHEELS—Wm. S. McLean, of Pittsburg, Pa.: I do not claim the separate and independent flange and tread, as that has been patented by James Jones, Wm. Howard, and others.

But I claim the car wheel with the flange and tread capable of separate action, when they are made to interlock and mutually support each other, so as to prevent any strain tending to separate them from being thrown entirely upon the journal, as described.

THRASHING MACHINE—W. M. Palmer, of Palmyra, Me.: I claim the combination of the screens, with the shutes, for screening and separating the grain, as set forth.

MOLDS FOR CEMENT OR EARTHEN VESSELS—B. S. and C. M. Pierce, of New Bedford, Mass.: We claim the combination of a core and spring case, as set forth.

DUMPING CAR—A. H. Petsch, of Charleston, S. C.: I do not claim the dumping of cars laterally across or on the side of the road.

Nor do I claim the two boxes on one carriage to dump on either side of the road, as that is also in use.

But I claim the construction of railways laterally across the carriage or otherwise, by which means I am enabled to dump the boxes by their own gravity, when let go from the apex of the plane, without labor to the operator, as set forth.

I also claim the projection of the railway beyond and outside of the car carriage, by which means I am enabled to dump the boxes at such an angle as to discharge their contents whatever may be the character of the load.

DUMPING CART—Sandford Stone, of Kirkersville, Ohio: I claim, first, arranging the cart body with a scraper on its fore end, and so as to tilt forward to the ground, for the purpose of scraping up the earth and loading it self immediately from the ground by its own action.

I also claim the employment of an endless horizontal belt for and in the place of the bottom of the cart body, so arranged and operated by any suitable means, that it will be made to revolve in the proper direction during the time of loading and unloading the cart, but will not act while drawing the cart from place to place for the purpose of assisting the operations of loading and dumping, as set forth.

I also claim the combined arrangement of the cart body, with the fulcrum or center on which it tilts (at a suitable distance above the revolving axle of the cart) the driving cog wheel on said axle, and two pinions placed upon the shafts by which the endless belt is driven in such a manner that the forward pinion will play into said cog wheel, when the cart body is tilted forward for loading, and the hind pinion play therein when the cart is tilted backward for dumping, but when in a horizontal position neither pinion will be geared therewith, for the purpose of operating the endless belt when and only when required, as specified.

I also claim the combination and arrangement of the rack on the cart body, the pinion on the dranght frame playing therein, the ratchet wheel on the pinion shaft, and the two clicks on opposite sides of the ratchet wheel, in such a manner that the cart body may be tilted to any position, and immovably held there, as described.

CLEANING AND FEEDING IN GRAIN TO THE MILL STONES—S. Shearman, of Goshen, Ind.: I claim the method set forth, of cleaning and feeding in the grain to the mill stones, by passing it through a cleaning apparatus, which is placed in between the hopper and the stones, and driven by the stones, as set forth.

SAW MILLS—John Stull, of Philadelphia, Pa.: I claim, first, a swinging frame, or its equivalent, carrying a circular saw, so constructed and arranged that the saw may be made or allowed to cut its full depth in crooked as well as straight logs, as described.

Second, the revolving self-acting wedge hung or arranged so as to vibrate and accommodate itself to any crooks, curves, or inequalities in the log or stuff sawed, as described.

Third, the floats or scrapers hinged to the carriage, or their equivalents, to push the saw dust in such direction as may be desired.

Fourth, I am aware that guides have been used to steady circular saws where they passed out of the log after cutting the score, and also where they enter a score already cut by the saw, therefore I make no claim to guides used under such circumstances, but I believe guides have never been used prior to my invention to steady and support circular saws, where they enter and cut the log as they enter.

I therefore claim a circular saw in combination with guides, so arranged as to steady and support the saw where it enters and cuts a score in the log, as described, to prevent the saw from being swerved by knots, cross-grained, or hard places in the wood sawed.

SHOE HORNS—Louis Schwingrouber, of New York City: I am aware that spring clamps of various kinds have been used, but I am not aware that a spring clamp, formed in the manner shown has been used with the shoe slip, as set forth.

Therefore I claim the spring clamp, with its concave holding jaw, in combination with the shoe slip, the parts being constructed and operating as set forth.

TIRES FOR CARRIAGE WHEELS—Geo. Souther, of South Boston, Mass.: I am aware that elastic tires for wheels are not new, and do not claim india rubber tires, except in the mode set forth.

I claim in tires of carriage wheels, the employment of tires of india rubber or equivalent elastic material inserted between projecting flanges, and projecting beyond said flanges, as set forth.

I also claim using for said elastic ties an entire ring to be stretched over and spring between the flanges, as set forth.

FIRE ARMS—Eli Whitney, of Whitneyville, Ct.: I claim the method of constructing the sear and lock bolt in one piece, combined with the method of operating the same by the trigger and spring, so that the sear cannot release the hammer except when the chambered breech will be firmly locked in its proper position when constructed, combined and operating as described.

Second, I also claim the combination of the trigger with the spring, and the lock bolt, when the lock bolt is of the same piece as the sear, for locking the chambered breech, and discharging the pistol, when constructed and combined as described.

Third, I also claim the combination of the three springs (when they are all secured with one screw) with the catch lever, trigger, and the lock bolt, and sear, the whole combined as described.

CLEANING TOP CARDS OF CARDING MACHINES—Horace Woodman, of Biddeford, Me.: I do not claim to combine with the top cards mechanism for raising one or more of them, and holding the same upwards, and afterwards depressing the same back into place.

Nor do I claim, in combination therewith, a mechanism for acting on and cleansing such top card or cards when or while so elevated.

Nor do I claim, in combination with a series of top cards, and mechanism for raising and cleansing a top card and restoring it to its seat, a mechanism for moving the raising and cleansing mechanism in succession from one top card to another.

But I claim the combining of lifter cams, and a brush bar, with one rotary shaft, so that by the movement of such shaft, as specified, the operations of raising and depressing a top card and cleaning it may be effected in the manner set forth.

BEDSTEADS—Simon Willard, of Cincinnati, O.: I claim constructing the bedstead of sheet metal posts bent longitudinally, at right angles to which are secured transverse flanges, and of a sheet metal sustaining box or boxes, which is supported at its corners by said flanges, and secured in place by rods passing down through both the flanges and sustaining box, arranged and combined as set forth.

FIRE ENGINES—Albin Warth, of New York City: I claim the arrangement and combination of a horizontal pump with a series of pinions and cranks, as described, by means of the long double rack and spring attached cross heads and platforms, as set forth.

MANUFACTURE OF BROOMS—W. B. Walker, of Bennington, N. H.: I claim the process of manufacturing brooms or brushes by compressing the material and forcing it into a chamber while in a compressed state, and securing it there by means of the clip or other device whereby the same end is obtained.

The material may be compressed by other devices than those described, therefore it is the principle practically carried out which I wish to secure, as well as the device by which it is done.

The spring catch and tongs mentioned in my caveat filed I consider as unnecessary.

HARROWS—Wm. Anderson, of Ulysses, N. Y.: I claim inserting a tooth in each hinge, so that no part of the ground escapes being pulverized, whereas in the harrows with hinges a large space in the center of the harrow escapes.

LASTING INSTRUMENTS—Thos. Daugherty, of Erie, Pa.: I do not claim the invention of pincers, levers, screws, or any of the parts separately, of this machine.

I claim so constructing the machine, as described, that when drawn up I have ample room for putting in the tacks or pegs, and having a heel which serves as a fulcrum, so that by pressing back the top of the machine I am able to raise the entire jaw clear of the sole and prevent the jaws from ruffling up the inner sole.

CULTIVATOR—C. K. Farr, of Auburn, Miss.: I do not claim the mold-board, ground plate, or any of the parts of my implement, which are found in the cotton scraper patented by Wm. C. Finney, April 24, 1849.

But I claim the hollow standards, cast with the ground plate for firmly uniting the beam to the implement by means of bolts passing through said standards, as set forth.

HYDRAULIC PRESS—Robert Grant, of New York City: I claim the combination of a flexible water and air-tight bag or medium of vulcanized india rubber cloth, with an outside wire vessel, or its equivalent, in such a manner that when water or steam shall be forced into the inside of the bag, the bag or medium shall be thereby pressed outward, and any material contained between the same, and the extraneous wire cylinder shall thus be wrung or squeezed nearly dry, by being pressed against the interstitial holes, as set forth.

PLOWS—J. S. Hall, of Manchester, Pa.: I do not claim the mere hinge joint of the mold board formed of similar sized stubs, as that is the subject of a former patent.

I claim the dissimilar sized hinges, as described, causing the wings of the mold boards to rise in proportion to their expansion in connection with the curved hinged braces, sustaining said wings at their expansion, and admitting of extreme contraction, without destroying the requisite form of the mold board under all its changes, a requisite hitherto not attained, for the purpose of adapting the plow to a variety of uses.

I also claim the effectual securing of an iron beam to an iron standard by means of the inclined segmental slot, bolt, and nut, or their equivalent, operating in the manner described.

HORSE POWER HOISTING MACHINERY—Abraham Jackson, of New York City: I claim the arrangements of the shafts with their hoisting drums so combined by shifting clutches and gearing, that the various operations for the hoisting and lowering of goods into or from ships, warehouses, &c., may be effected by a horse or other power acting continually in one direction, as set forth.

CLEANING AND DRYING GRAIN—H. N. Black, of Philadelphia, Pa.: I claim the employment of the inclined perforated cylinder for drying grain by the action of centrifugal force, in combination with the described apparatus for cleaning the grain.

SCREENS FOR HULLING CLOVER SEED AND CLEANING GRAIN—M. H. Mansfield, of Ashland, O.: I do not claim constructing a screen in two or more parts. Nor do I claim merely adjusting them to insure their proper action.

But I claim constructing a screen for cleaning clover seed and the various kinds of grain, in several sections jointed together when made independently adjustable at each joint, for the purpose of facilitating or retarding the passage of the straw, chaff, and other impurities over it, according to their nature or condition, as set forth.

CULTIVATOR—D. W. Shares, of Hamden, Ct.: I do not claim of themselves the expanding and contracting wings, as such have before been used in corn plows and cotton scrapers.

But I claim providing the expanding and contracting wings on either side, with cultivating teeth, projecting downwards on the inside of the hoeing wings or scrapers, as set forth.

CAP OR WITHE FOR MASTS—J. W. Sikes, of Plymouth, N. C.: I claim the construction of a withe with a main bar and shackles, as described, so that one withe will serve all the purpose of the two heretofore used, and so that all its wearing or chafing parts may be removed and replaced by others without disturbing it on the mast, as set forth.

FELT HATS—J. W. Whittal and W. W. Pendleton, of Greenwich, Ct.: We claim the formation of hats from felt cloth in sheets, combined with gutta percha also in sheets, said materials after being united to be formed into shape by pressure in a mold or upon a block while the gutta percha is in a plastic state, as described.

PLANING METALS—D. F. Mallett, of Wentworth, N. H. (assignor to himself, J. F. Augustus, of Somerville, Mass., and S. A. Eaton, of Boston, Mass.): I claim the circular table, as set forth, the rotary motion of the table being dependent upon the longitudinal motion of the carriage.

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SEED PLANTERS—Wm. Bullock (assignor to B.G. Morss,) of Red Falls, N. Y.: I claim, first, the seeding wheels formed as described, so that the seeds pass in at or near the center of the wheels, and out at the periphery. Second, the arrangement of one and the same wheel for sowing in drills and planting in hills. Third, the arrangement of the tubes as herein described, and for the purpose set forth. Fou th, the guards in combination with the seeding wheels, and Fifth. The marker, for the purpose of indicating the position of each hill, thereby enabling the operator to plant in hills, forming rows both ways across the field."

RE-ISSUE.

CUT NAIL FROM MUNTZ'S METAL—S.L. Crocker, of Taunton, Mass. Originally patented April 17, 1849: I lay no claim to the invention of either a cast copper nail, or a cast composition nail, made of copper and zinc combined in different proportions from that in which they are combined in the yellow metal (known in commerce as Muntz's Sheathing Metal), or combined in the same proportions and with some other metals.

But what I claim is the new article of manufacture described, viz., a yellow metal nail or spike made by cutting and heading it in a nail or spike machine, meaning by the term yellow metal, a metal composed of copper and zinc, in the proportions in which they are usually combined in the manufacture of the well known "Muntz Sheathing Metal."

ADDITIONAL IMPROVEMENT.

HARNESS SADDLE TREES—Thomas Mardock and W. C. Kellar, of Cincinnati, Ohio. Added to the original patent, dated Oct. 12, 1852: We claim the construction of harness saddle trees with the loose caulle, in combination with the crupper loop, or its equivalent, constructed, arranged and operating as set forth.

[The Examiners continue to work diligently, as will be observed by the above extensive list of patents issued last week. The Commissioner and inventors have reason to congratulate themselves on having working men in THEIR DEPARTMENT this summer, as their works show. 58 patents issued August 1st. against 24 for the week ending the same time last year.]

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American and Foreign Patent Agency.

IMPORTANT TO INVENTORS.—The undersigned having for several years been extensively engaged in procuring Letters Patent for new mechanical and chemical inventions, offer their services to inventors upon the most reasonable terms. All business entrusted to their charge is strictly confidential. Private consultations are held with inventors at their office from 9 A. M., until 4 P. M. Inventors, however, need not incur the expense of attending in person, as the preliminaries can all be arranged by letter. Models can be sent with safety by express, or any other convenient medium. They should not be over 1 foot square in size, if possible.

Having Agents located in the chief cities of Europe, our facilities for obtaining Foreign Patents are unequalled. This branch of our business receives the especial attention of one of the members of the firm, who is prepared to advise with inventors and manufacturers at all times, relating to Foreign Patents.

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EUROPEAN PATENTS.—MESSRS. MUNN & CO. pay especial attention to the procuring of Patents in foreign countries, and are prepared to secure patents in all nations where Patent Laws exist. We have our own special agents in the chief European cities; this enables us to communicate directly with Patent Departments, and to save much time and expense to applicants.

POLYTECHNIC COLLEGE—of the State of Pennsylvania, Market Street and West Penn Square, Philadelphia. Lectures will be resumed on Monday, September 11, 1854, under the following Faculty:—Mathematics and Civil Engineering—Prof. Selim H. Peabody. Metallurgy, and Industrial, Analytical and Agricultural Chemistry—Prof. Alfred L. Kennedy, M. D. Mining, Engineering, Geology, and Mineralogy—Prof. W. H. B. Thomas, A. M. Mechanical Philosophy and the Principles of Machinery—Profs. Kennedy and Peabody. Terms for each department for semi-annual session, $15. Mechanical, Architectural, and Topographical Drawing—Prof. John Kern. French and Spanish—Prof. V. de Amarilli. German—Prof. B. H. Entrup.

MATTHEW NEWKIRK, Board of Trustees.
JOHN McINTYRE, Sec'y. 48 2*

THE ART OF BUILDING.—A book of about 200 pages, illustrated by numerous engravings. By John Bullock, C. E. and Architect. It treats of:—1. the general principles of construction. 2. of materials used in building. 3. strength of materials. 4. use of materials. 5. working drawings and specifications, how prepared. 6. woods of North America. I will mail it to any part of the U. S., and pay the postage on receipt of one dollar, which may be sent by mail to JOHN BULLOCK, 212 Broadway, New York. 48 1*

METALLIC OIL—In most of the Fire Insurance Companies of this city and Philadelphia, parties using Cumberland Brothers' Patent Metallic Oil, can effect insurance on their factories, &c., at the same rate of premium as if they used sperm oil. This privilege is extended to no other oil manufactured for lubricating purposes. For sale in quantities to suit purchasers by
YOCKNEY & CO.,
Elizabethport, N. J., office 67 Exchange Place, N.Y.
45 12*

FOR SALE LOW—A second-hand six horse Steam Engine and Boiler, with all the fixtures. Address Wm. W. WOODRUFF, New Britain, Ct. 48 4*

UNIVERSAL SCROLL CHUCKS—Those in want of a superior article and of various sizes will please call or address at the office of the Meriden Machine Co., 15 Gold st, cor Platt st., New York City. 48 3*

FOR SALE—Or to Lease at a low rate, a never-failing water power with factory buildings thereon, together with several water wheels, running gear, trip hammers, &c., all in fine running order, suitable for a worker in iron, such as an axletree, scythe, hoe, ax or other edge tool manufacturer, located in a flourishing healthy village within 100 miles and communicating with New York by water without transhipment. A rare opportunity now offers to any one needing such facilities. Communications will receive due attention if addressed to FACTORY, box 1327 N. Y. Post-office. 1*

USEFUL DISCOVERY—For $1, post-paid, I will send to one address instructions how to draw or mark out a correct scroll of any size and proportions, with the same ease and as quick as a circle can be described with the compasses, and the figure will be more regular and equally correct with the geometrical scroll that requires so much time and scientific knowledge to lay out. A. BELCHAMBERS, Machinist,
48 3* Ripley, Ohio.

SEWING MACHINES—CARD TO THE PUBLIC. The long protracted legal controversy between Elias Howe, Jr., and I. M. Singer & Co., has been amicably settled. Singer's celebrated Sewing Machines, which have had a constantly increasing sale, notwithstanding adverse verdicts and injunctions, may now be purchased and used without any question of the right to use them. We caution the public against buying any of the numerous inferior machines in the market. They all infringe one, and some of them several, of our patents, and those who attempt to use them will be prosecuted. I. M. SINGER & CO., 323 Broadway. 48 3*

THE AMERICAN FIRE ALARM TELEGRAPH—Invented by Channing & Farmer.—Patent rights for States and cities may now be purchased. It may be seen in Boston, where it has been in uninterrupted operation over two years, giving simultaneous notice of the locality of fires by all the church bells. Any information as to terms of sale may be obtained from RUSSEL & NELAND, 106 Broadway; ANDREW RANKIN, 151 Nassau st. 1*

IMPORTANT TO SUGAR PLANTERS AND MANUFACTURERS—For sale a valuable invention for extracting the juice from the sugar cane. This invention is patented in England, is entirely new and has given complete satisfaction. Apply to J. WARDEN Phenix Foundry, West st., New York. 48 2*

POWER PLANERS—Those in want of a small Power Planer, which will plane 3 feet in length, 14 inches wide and 12 inches deep, and made in a superior manner, will please call at the office of the Meriden Machine Co., 15 Gold. cor. Platt st., New York City, or any communication by mail directed to the office or at the factory (West Meriden, Ct.) will meet with prompt attention. 48 3*

THE GWYNNE PUMP—References continued from last week:—Messrs. Lockwood & Smith, Plaster Quarry, Sandusky, Ohio; Messrs. J. & R. Greenfield, Paper Mills, Camden, N. J.; Messrs. Bradley & Co., Paper Mills, Niagara Falls, New York; John Russell, Esq., Croton File Works, Sing Sing, N. Y.; J. J. Stevens, Res. Engr. Del. and Rar. Canal Trenton, N. J.; J. Dutton Steele, Esq., Civ. Engr. Phil. & Reading R.R., Pottstown, Pa.; Levi J. Smith, Esq., Civil Engineer, Reading, Pa; Nelson Gavitt, Esq, Eng & Machine Works, Philadelphia, Pa.; Isaac Bromle, Paper Mills, Louisville, Ky.: Messrs. Wm. Clark & Co., Paper Mills, Northampton, Mass. (List to be continued.) 1

LAWRENCE SCIENTIFIC SCHOOL—Harvard University.—The next Term of this Institution will open on the 31st day of August, 1854, and continue 20 weeks. Instruction by Recitations, Lectures, and Practical Exercises, according to the nature of the study, will be given in Anatomy by Messrs. Bond, Botany by Prof. Gray; Chemistry, Analytical and Practical, by Prof. Horsford; Comparative Anatomy and Physiology by Prof. Wyman; Engineering by Prof. Eustis; Mathematics by Prof. Pierce; Mineralogy by Prof. Cooke; Physics, by Prof. Lovering; Zoology and Geology by Prof. Agassiz. For further information concerning the School application may be made to Prof. E. N. Horsford, Dean of the Faculty.
Cambridge, Mass., July, 1854. 47 4*

VALUABLE PRACTICAL RECEIPTS—NOW ready, and will be sent to any address in the United States for one gold dollar, Address, post paid, A. ADAMS, Clearspring, Md. 47 2*

PATENT RIGHT FOR SALE—State Rights in a new and improved machine, designed for ship and boat spikes, patented July, 4th, 1854. This machine is entirely new, and comprises a new and patented method of pointing, whereby a great amount of labor in repairing is saved. Application should be made to F. HUMPHREY, Boonton, N. J. 47 3*

HENCK'S FIELD BOOK FOR ENGINEERS—Second Edition, D. APPLETON & CO., 346 and 348 Broadway. Just Published. Field Book for Railroad Engineers—Containing Formulæ for laying out Curves, Determining Frog Angles, Leveling, Calculating Earth Work, &c., &c., together with tables of Radii, Ordinates, Deflections, Long Chords, Magnetic Variation, Logarithms, Logarithm and Natural Sines, Tangents, &c., &c. By John B. Henck, A. M., Civil Engineer, one vol., pocket book form. Price $1.75. The first edition of 1,000 copies of this Work was sold off in four weeks, a sale almost unprecedented in works of this class. The Publishers have received letters from the following eminent Professors and practical Engineers, who commend it as the best practical elementary work on the subject of American Railroad Engineering:—Prof. D. H. Mahan, West Point; Prof. M. M. Gillespie, Union College; Prof. H. E. Eustis, Lawrence Scientific School; Prof. B. F. Greene, Rensselaer Polytechnic School; Prof. J. T. Benedict, New York Free Academy; W. J. McAlpine, State Engineer: E. S. Chesbrough, City Engineer, Boston; S. M. Felton, Philadelphia; G. W. Whistler, New Haven Railroad; Wm. E. Worthen, New Haven Railroad. 46 3

BUFFALO MACHINERY DEPOT. JAMES W HOOKER, 36 Lloyd St., Buffalo, offers for sale all kinds of machinery, as follows: Engine Lathes, Planing Machines, Universal Chucks, Caststeel Borers, Drills, Leather and Rubber Belting, Packing and Hose Oils, Millstones, Portable and Stationary Engines, Boilers, and Machinery generally. 43 tf

PATENT ROCK DRILL.—The simplest, cheapest and best ever offered to the public. For information apply to A. B. ELY, Esq., Boston, Mass., agent of North American Rock Drilling Company. 43 3m

THE EUROPEAN MINING JOURNAL, Railway and Commercial Gazette. A Weekly Newspaper, forming a Complete History of the Commercial and Scientific Progress of Mines and Railways, and a carefully collated Synopsis, with numerous Illustrations of all New Inventions and Improvements in Mechanics and Civil Engineering. Office, 26 Fleet Street. London. Price $6 1-2 per annum. 43

T. M. CHAPMAN'S PATENT SAW FILING Machine. The best known and without a rival. The subscriber offers for sale Territorial Rights, and also builds and sends machines wherever they may be wanted. T. M. CHAPMAN, Patentee, Old Town, Me. 40 10*

LEONARD & WILSON—No. 60 Beaver st, and 109 Pearl st, have constantly on hand and for sale a full assortment of Machinists' and Carpenters's Tools, embracing every variety of Engine and Hand Lathes, Iron Planing Machines, Mortising and Tenoning Machines, Wood Planers, &c. Also, Leather Belting of all sizes made of the best oak tanned butts, stretched on powerful machines, riveted and cemented. 42 13*

THE CRESCENT FOUNDRY & MACHINE CO. Bridgeport, Conn., make to order Stationary Steam Engines from 8 to 150 horse power, large double acting Force Pumps for water works, Iron Planers, Engine Lathes built in the most substantial manner and UNCOMMONLY HEAVY. Machinery in general and all kinds of Steam Boilers. Having a large and extensive stock of mill gearing and other patterns, the accumulation of 18 years, they are prepared to furnish castings at short notice. Any work ordered from this Company will be guaranteed equal to any made in this country. They would call attention to a large lathe which they build, designed for Railroad Machine shops for turning of drivers. They also make a very large and heavy lathe with screw feed, de igned for Machine Shops in general. They are now making a vertical Engine of new design from 8 to 10 horse power, which will require but the small space of 4 feet square(the bed being 24 by 34 inches) and with a vertical boiler will require only 4 feet by 8 feet. 18 12 1am 1y*

UNITED STATES PATENT OFFICE,
Washington, July 21, 1854.

ON THE PETITION of Reuben Daniels, of Woodstock, Vt., praying for the extension of a patent granted to him on the 8th day of October, 1840, for an improvement in the "manufacture of cloth of various kinds by the employment of wood and silk, obtained by reducing worn out woolen and silk goods into the fibrous state," for seven years from the expiration of said patent, which takes place on the 8th day of October, 1854.

It is ordered that the said petition be heard at the Patent Office on Monday the 25th of September next, at 12 o'clock, M.; and all persons are notified to appear and show cause, if any they have, why said petition ought not be granted.

Persons opposing the extension are required to file in the Patent Office their objections, specially set forth in writing, at least twenty days before the day of hearing; all testimony filed by either party to be used at the said hearing must be taken and transmitted in accordance with the rules of the office, which will be furnished on application.

The testimony in the case will be closed on the 15th of Sept.: depositions, and other papers relied upon as testimony, must be filed in the office on or before the morning of that day; the arguments, if any, within ten days thereafter.

Ordered, also, that this notice be published in the Union, Intelligencer, and Evening Star, Washington, D. C.; Pennsylvanian, Philadelphia, Pa.; Scientific American, New York, and Post, Boston, Massachusetts, once a week for three successive weeks previous to the 25th day of Sept. next, the day of hearing.

CHARLES MASON,
Commissioner of Patents.

P. S.—Editors of the above papers will please copy and send their bills to the Patent Office, with a paper containing this notice. 47 3

UNITED STATES PATENT OFFICE,
Washington, July 21, 1854.

ON THE PETITION of Reuben Daniels, of Woodstock, Vermont, praying for the extension of a patent granted to him on the 10th day of October, 1840, for an improvement in "machine for reducing worn out cloths and silks of various kinds to the fibrous state, so as to be capable of being manufactured into cloth," for seven years from the expiration of said patent, which takes place on the 10th day of October, 1854:

It is ordered that the said petition be heard at the Patent Office, on Monday, the 25th of September next, at 12 o'clock, M.; and all persons are notified to appear and show cause, if any they have, why said petition ought not to be granted.

Persons opposing the extension are required to file in the Patent Office their objections, specially set forth in writing, at least twenty days before the day of hearing: all testimony filed by either party to be used at the said hearing must be taken and transmitted in accordance with the rules of the office, which will be furnished on application.

The testimony in the case will be closed on the 15th of September; depositions and other papers relied upon as testimony, must be in the office on or before the morning of that day, the arguments, if any, within ten days thereafter.

Ordered, also, that this notice be published in the Union, Intelligencer, and Evening Star, Washington, D. C.: Pennsylvanian, Philadelphia, Pa.: Scientific American, New York, and Post, Boston, Massachusetts, once a week for three successive weeks previous to the 25th of September next, the day of hearing.

CHARLES MASON,
Commissioner of Patents.

P. S.—Editors of the above papers will please copy, and send their bills to the Patent Office, with a paper containing this notice. 47 3

UNITED STATES PATENT OFFICE,
Washington, July 19, 1854.

ON THE PETITION of Ross Winans, of Baltimore, Md., praying for the extension of a patent granted to him on the 26th day of November, 1840, for an improvement in "the mode of regulating the waste steam in locomotive steam engines," for seven years from the expiration of said patent, which takes place on the twenty-sixth day of November, eighteen hundred and fifty-four.

It is ordered that the said petition be heard at the Patent Office on Monday, the 13th of Nov. next, at 12 o'clock, M.; and all persons are notified to appear and show cause, if any they have, why said petition ought not to be granted.

Persons opposing the extension are required to file in the Patent Office their objections, specially set forth in writing, at least twenty days before the day of hearing. All testimony filed by either party, to be used at the said hearing, must be taken and transmitted in accordance with the rules of the office, which will be furnished on application.

The testimony in the case will be closed on the 3rd of Nov.; depositions and other papers relied upon as testimony, must be filed in the office on or before the morning of that day; the argument, if any, within ten days thereafter.

Ordered, also, that this notice be published in the Union, Intelligencer, and Evening Star, Washington, D. C.; Pennsylvanian, Philadelphia, Pa.; Scientific American, New York; Post, Boston, Massachusetts, and Inquirer, Cincinnati, Ohio, once a week for three successive weeks previous to the 13th day of Nov. next, the day of hearing.

CHARLES MASON,
Commissioner of Patents.

P. S—Editors of the above papers will please copy, and send their bills to the Patent Office, with a paper containing this notice. 46 3

IRVING'S PATENT SAFETY CIRCULATING STEAM BOILER—For Stationary, Locomotive, and Marine Engines. These Boilers having been thoroughly tested by scientific experiment and practical use, are being rapidly introduced into every part of the United States. Their claims to superiority are fully supported by the united testimony of highly respectable parties, who have given them the most successful trials. The following are among the chief advantages of this Boiler: 1st. Great increase of heating surface, with diminution of bulk. 2nd. Economy of fuel—a saving of more than 50 per cent, being effected over other boilers. 3rd. Economy of space, compactness, and strength of form. 4th. Increased safety from explosion. 5th. Freedom from incrustation. Circulars obtained on application at the Company's Office. Boilers of any required power furnished on short notice. Rights negotiated for all parts of the United States, England, France, and Belgium. All communications promptly attended to.
W. F. PHELPS,
45 3m* Sec'y Irving S. Boiler Co., 347 Broadway, N. Y.

HARRISON'S SUPERIOR GRAIN MILLS—Latest Patent of June 6, 1854.—The New Haven Mig Co. having the right for said Mills, will keep a supply constantly on hand. A liberal commission paid to agents for sale of the same. For further information address New Haven Manufg. Co., New Haven Ct. 45tf

MARYLAND INSTITUTE.—Baltimore Seventh Annual Exhibition will be opened on the 18th September next, and close on the 16th of October. Circulars with rules and regulations, and any information required, will be promptly furnished by application to John S. Selby, Actuary of the Institute.
45 6* THOS. SWANN, Ch. Ex. Com,

HARTSON & CO.'S CELEBRATED TURNING Lathes, Planing and Drilling Machines—Having added extensively to our facilities, we are now prepared to execute orders for the above at short notice; also manufacture to order all tools used by machinists and engine builders. We now have on hand, ready for delivery, the following: Planing Machines, one to plane 25 feet long by 5 feet square; one 20 ft. by 3 ft.; one 18 ft. by 3 ft.; one 16 by 3 ft.; two 8 ft. by 30 in.; two 6 ft. by 25 in.; two 4 ft. by 22 in. Turning Lathes with screw gearing complete: one 22 ft., shears 42 in. swing; one 16 ft. 42 inch swing; two 20 ft. 26 inch. swing; one 13 ft. 26 inch swing; one 18 ft. 22 inch swing: also three vertical suspension drilling machines. The above are all made in the best possible workman-like manner and of the best material. G. B. HARTSON & CO., Globe Works, foot of 33rd street, North River, N. Y. 46 4*

FOR SALE, LOW.—The Patent of a Self-Unloading and Adjusting Hay Elevator. Patented May 30th 1854. Address, Horsham, Pa.
43 7* T. T. JARRETT, Patentee.

STAVE AND BARREL MACHINERY—HUTCHINSON'S PATENT.—This machinery, which received the highest award at the Crystal Palace, may be seen there in operation during the ensuing season. Cutting, Jointing and Crozing Staves and Turning Heads. Staves prepared by this process are worth to the cooper from 20 to 40 per cent more than when finished in another way. Applicable alike to thick and thin staves. Apply to C. B. HUTCHINSON & CO., Auburn, N. Y., or at the Crystal Palace. 34 tf

KENTUCKY LOCOMOTIVE WORKS—Corner of Kentucky and Tenth streets, Louisville, Ky.—The proprietors of the Kentucky Locomotive Works would respectfully inform Railroad Companies and the public generally, that, having completed their establishment, they are now prepared to receive and execute orders with fidelity and dispatch. They will contract for Locomotives, Passenger, Baggage, Freight, Gravel, and Hand Cars, of every style and pattern, as well as all kinds of Stock and Machinery required for railroads. Particular attention will be paid to Repairing, for which they have every facility. They are also prepared to contract on favorable terms for building all kinds of Machine Tools, such as Turning Engines, Lathes, Planers, Drills, Slotting, Splining, and Shaping Machines of every variety of pattern. Having also a large Foundry connected with the establishment, orders for castings are solicited, and will be filled with promptness. Car Wheels of any pattern can be furnished on short notice. Double and single plate and Spoke Wheels of all sizes constantly on hand. Communications or orders must be addressed to OLMSTED, TENNEYS & PECK, Louisville, Ky. 406m.*

PIG IRON—Scotch and American; also English Boiler Plate and Sheet Iron, for sale at the lowest market prices, by G. O. ROBERTSON, 135 Water st, cor. Pine, N. Y. 40tf

JOHN PARSHLEY, No. 5 and 7 Howard st., New Haven, Ct., manufacturer of Machinists' Tools, and Steam Engines, has now finishing off 25 Engine Lathes, 6 feet shears, 4 feet between centers, 15 inches swing, and weighs about 1100 lbs. These Lathes have back and screw gear, jib rest, with screw feed, and the rest is so arranged that the tool can be adjusted to any point the work may require, without unfastening the tool, hence they possess all the good qualities of the jib and the weight lathe; they are of the best workmanship. Price of Lathe with count shaft and pulleys, $155 cash. Cuts, with full description of the lathe, can be had by addressing as above, post-paid. Also four 30 horse power vertical Steam Engines with two cylinders. Price of engine with pump and heater, $900 cash. For particulars address as above. 35tf

PATENT RIGHT FOR SALE.—We are ready to dispose of the Patent Right, (or any part of it) of the best Stone Drilling Machine now in use, or we are prepared to furnish working machines at very reasonable prices, these machines will drill from 1 to 7 inches in diameter, and 100 feet deep, and can be worked by Hand, Horse, or Steam Power, one machine performing the work of twenty-five men. For further particulars and circulars with cuts address JAS. T. WHITTEMORE, Agent American Manufacturing Co., 39 State street, Boston, 40 tf

FULTON FOUNDRY AND MACHINE WORKS S. W. corner of Green and Morgan streets, Jersey City, N. J. The subscribers are prepared to contract for Sugar Mills and Mining Machinery of every description. Horizontal Steam Engines of various sizes constantly on hand. All orders executed with promptness.
34 13* FIELDS, BROTHER & CO.

PALMER'S PATENT LEG—"The best appliance ever invented." Pamphlets containing the testimonials of the first American and European surgeons, and other information concerning this invention sent gratis to all who apply to PALMER & CO., Springfield, Mass.: or 376 Chesnut st, Philadelphia. 42 13*

NORCROSS' ROTARY he U. S., at the Term of The Supreme Court of that the patent granted 1853 and 1854, having decided the Feb. 12, 1850, for a Roto Nicholas G. Norcross, of da ng Boards and Planks, tary Planing Machine for Planioodworth Patent. is not an infringement of the W patented machine can Rights to use N. G. Norcross's N. G. NORCROSS, be purchased on application to 208 Broadway, New York. The printed Report of the case with t opinio the Court can be had of Mr. Norcross. 36 6m*

READING'S PATENT CORN SHELLER and Cleaner—capacity 200 bushels per hour. 9 first premiums awarded in the Fall of 1853. Patent Rights and Machines now for sale at the corner of 2nd Street and Pennsylvania Avenue, Washington, D. C. I challenge the world to produce its equal. Address personally or by mail. WILLIAM READING. 43 13*

MACHINISTS TOOLS—Power Planers 4 to 16 feet long, weight 1,000 to 10,000 lbs. Engine Lathes, 6 to 19 feet long, weight 1,700 to 8,400 lbs., swing 21 to 38 inches. Hand Lathes, Gear Cutters, Drills, Bolt Cutters, Slide Rests, Chucks, &c., of best materials and workmanship constantly on hand, and being built, also the best Grain Mills in the country, "Harrison's Patent." For cuts giving full description and prices address NEW HAVEN MANUFACTURING CO., New Haven, Conn. 38 tf.

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STATIONARY STEAM ENGINES—The subscriber is now prepared to furnish, with or without pumps, boilers, &c., Horizontal Engines on iron bed frames, good strong, substantial, plain finished engines that will do good service, say from 4 horse, $215, to 30 horse, $1,037: they have Judson's patent valves, and will be warranted to work well. S. C. HILLS,
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Scientific Museum.

Ventilation on Board of Ships.

A report has been submitted to the U. S. Senate by Senator Fish, on the subject of "Health on Board of Emigrant Ships," which contains a great mass of information relative to the causes of mortality on board of some ships and the healthiness of others. From the statistics presented, it appears that while some ships from Liverpool had not a death on board the whole voyage, others had between 70 and 80, and that with fewer passengers, and shorter voyages by some days. This occurred at the same season of the year, and the passages were made on nearly the same lines of latitude. The great cause of so much disease, in the cases referred to, is attributed to bad ventilation, and we conceive that the report has struck the true nail on the head. It is our opinion that the inhalation of impure air is the cause of nine-tenths of all the diseases in the world. What is Malaria but impure air; and is not every epedemic principally caused by a peculiar state of the atmosphere? Far too little attention is paid to having a supply of pure, fresh air—that food of our lungs, without which we cannot exist for two minutes.

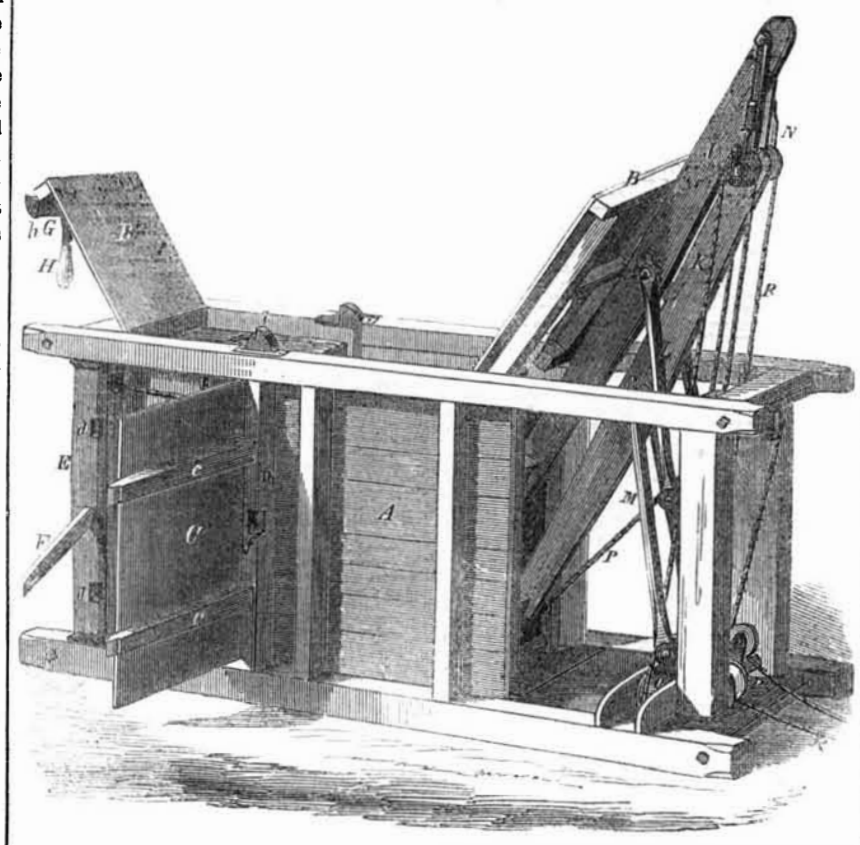
Improved Hay Press.

This engraving is a perspective view of a press adapted for packing hay, cotton, hops, hemp, &c., for which two patents have been granted, one on the 6th and the other on the 16th of June last, to Levi Dederick, of the city of Albany, N. Y. One patent is for an improvement on the doors of the press, and the other is for an improvement in operating the follower—giving it a parallel motion, while pressing, by toggle levers.

THE DOORS.—A is the case or box in which the cotton, hay, or other article to be pressed is placed. It has a trap-door, B B, and a side door, C. The cotton, or hay is placed in the case through the top opening. The side door, especially, requires to be very securely fastened to resist the great pressure that comes upon it. This door is secured to a stile, D, having a small round tenon at each end. These fit loosely in recesses in the top and bottom pieces of the frame. To this stile, and also to the door, C, are secured two arms or battens, *c c*, the outer ends of which project a short distance beyond the edge of the door, C. E is a stile attached to the top and bottom pieces, like the one at D, but not to the door. This stile, E, has recesses, *d d*, which, when the door is closed, fit over the end of the battens, *c c*. F is an arm or lever attached to the stile, E, by a pivot, when the door is closed; the outer end of this arm or lever is fitted in a recess in the stile. The door, C, is thus made perfectly secure; the outer ends of battens, *c c*, fitting in the recesses, *d d*, and the outer end of the bar lever, fitting in the recess, *f*. To unfasten the door, raise the outer end of F, from the recess, *f*, and turn the stile, E, around till the ends of the battens clear the recesses, *d d*. This door is for discharging the compressed material—hay, cotton, &c. The top door, when closed, is secured by a bar, G, which is attached to a bridge, to the front edge of the door. The bar is provided at each end with a flange, *h*, to catch in the top side pieces, *i i*, of the frame, and this secures the top door on the hay or cotton, when the case is full for pressing. By raising the lever, H, to a vertical position, the bar, G, is turned so as to free the flanges, *h h*, from the caps, *i i*, and the door can be opened.

THE LEVERS.—The follower presses horizontally in the case, A; it is not seen, but suffice it to say, that the inner ends of the levers, J K, are secured to it—the one above the other. These levers are connected by rods, N, at their outer ends, and these have pivot joints passing through the levers. L M are other levers secured by pivots to J K, and to lugs, by like joints in the posts. There is a pulley attached to each side of the follower lever, K, below the ends of the connecting arms is a large roller O. A rope, R, is secured at one end on the bottom of the frame, then passes over the outside pulley, at N, then down around the roller, O, then up and over the nigh pulley, N, then down and around the pulley, on the bottom of the frame. By pulling on this rope—by winding it upon a windlass, &c., the upper ends of the levers, J K, are drawn down, and the follower thrust forward, pressing the hay, cotton, or other material with great force. The levers have a quick motion, and exert little power when they first commence to act, but have a slow motion, and exert the greatest power near the end of the stroke; this is the kind of motion required. The action of these levers is parallel, like that of the joints of a parallel ruler.

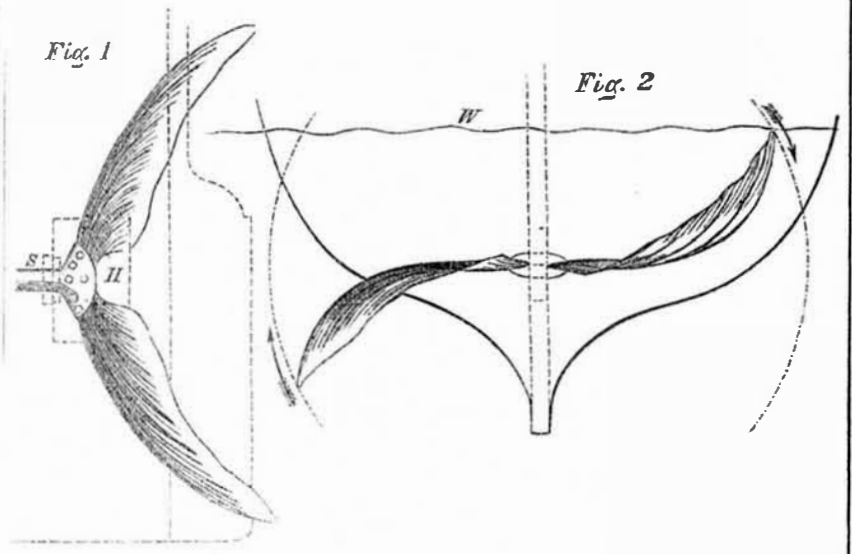
DEDERICK'S PARALLEL LEVER HAY PRESS.



The rope, P, is connected at one end to the follower, then passes over a pulley on the top scantling of the frame, and down over another pulley. This cord is for drawing back the follower and elevating the levers, when the cotton or hay is pressed and secured in bale. This press may have a door on one or both sides. It is a very simple press, indeed, and as we understand, it gives great satisfaction where it is used. As a cloth press, one of them is in use at the Harmony Mills, Cohoes, N. Y., and it is easy to perceive that it can be used for many purposes. It can be made very strong and durable. One that can press 500 lbs. of hay costs about $175, and one that can press a bale of 200 lbs. about $100.

More information may be obtained of Deering & Dederick, Premium Agricultural Hall, Albany, N. Y.

SWORD FISH PROPELLER.



The annexed engravings are views of a Propeller for which a patent was granted to C. T. P. Ware, (dramatist,) of this city on the 4th of last October. Figure 1 represents the Propeller, which resembles the tail of the East Indian Sword Fish; and figure 2 is a transverse section of the stern of a vessel with the propeller, H; S is the shaft; W is the water line. The blades decrease in thickness from their junction at H, towards every point of their outer and inner boundaries. The inner boundary is stiffer than the outer boundary, and therefore yields less to the resistance of the water. The shaft is to be actuated by alternate partial revolutions, like the action of the fish tail, and the blades vibrate vertically on either side of the dead wood of a vessel; therefore the point of the outer extremeties of the propeller, when not opposd by any resistance will describe the arc of a circle, as shown by the dotted lines and arrows. The plane of this circle is perpendicular to the shaft. The resistance of the water, however, causes portions of the blade remote from the shaft to yield readily. The blades are made of india rubber, or any other substance of an elastic pliant nature, in combination with inflexible ribs, like the ribbed membraneous fins and tails of fish.

The inventor has expressed himself satisfied, from close observation, that the tail of the East Indian sword fish, as also the wings of the swiftest insects and birds, are moved in this manner—that is to say, in a plane perpendicular to the direction of flight. That the sweep of the blades is arbitrarily confined to that plane, although propulsion is by no means entirely effected by the constant screw-like pressure resulting from this movement, but chiefly by the backward throw of their extremities, consequent upon their being turned from one direction to its opposite, imparting a series of impulses which the intervening screw action serves unceasingly to keep up—so that at the end of each stroke, instead of a loss, there is a gain of propulsive force.

These impulses he supposes are further increased in effect as the vessel advances, by the well known current which follows the upward or downward sweep of the blade (as in a screw) and which, taking place at its forward edge, leaves an almost unyielding fulcrum for the rear edge and extremity to act upon when whipped back in the opposite direction.

The advantages claimed for this propeller are, that, whereas a vessel of eight feet draught would be limited to a screw of eight feet, or less, it would admit of these blades being 16 feet from tip to tip, (with a throw of 1-6 of a circle) allowing her that extent of screw surface (of increasing pitch) independent of their main action as above cited. The throw can be increased or diminished according to the draught of the vessel while the same speed will result—the less throw admitting of more frequent impulses—the greater, less frequent but more effectual ones. The water leaves the after part of the vessel in a direct line, and without the least apparent disturbance or revulsion. If the vessel be under sail, there is no necessity of raising the propeller, its blades cutting the water edgewise when not in use. By a very simple device the position of the blades is reversed, and the vessel is backed.

During a recent experiment in this city with a hand power boat, it was shown that the most powerful oarsman was unable to pull against a very trifling movement of the propeller. The blades were made of Ryder's half vulcanized gutta percha, not 1-20 of an inch thick, and the back rib of whalebone.

More information may be obtained by letter addressed to Mr. Ware, at 505 Broadway.

Orange Water Melon.

Mr. Peabody, of the "Soil of the South," has recently presented the Columbus "Times" a specimen of this vegetable curiosity. The rind peels off like the orange and leaves the whole of the rich, luscious pulp into a lobate mass, which also divides into parts, and is most delightfully flavored. This water melon is a native of China.

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